A Lecture
ON
THE TREATMENT OF ADENOID GROWTHS IN THE NASO-PHARYNX.

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By THOMAS BARR, M.D. GLASG.,

LECTURER ON DISEASES OF THE EAR, GLASGOW UNIVERSITY; AURAL SURGEON TO GLASGOW WESTERN INFIRMARY AND GLASGOW EAR HOSPITAL; AND AURIST TO GLASGOW SICK CHILDREN'S HOSPITAL.

GENTLEMEN,—We have already considered the symptoms of post-nasal growths, the defective nose breathing, the open mouth, the compressed nostrils, the snoring and even embarrassed breathing during sleep, the sluggish intellectual powers, and notably the defective hearing from middle-ear disease. Such a combination of symptoms occurring in early life generally denotes the existence of these growths in the naso-pharynx.

Importance of early removal.—We found that these vegetations tended to atrophy and disappear spontaneously when adult age is reached, and hence the question might be asked, Why not wait for their spontaneous disappearance? No doubt in slight cases, presenting few symptoms, and especially if unattended by ear mischief, no harm would follow the policy of waiting for their spontaneous disappearance. In most instances, however, such delay might be fraught with most important consequences. Dr. Semon gives the following pregnant reasons against delay in removing these growths: (1) the influence of the obstruction upon general health, mental development, and upon the formation of the face, results which remain for ever even if the glands themselves undergo atrophy; (2) the ever-present danger of ear complications; and (3) the greater liability to and seriousness of infectious diseases of childhood, especially diphtheria and scarlet fever, so long as the hypertrophic glands are present.

Modes of operating.—The operative is the only form of treatment worthy of consideration. Of the many methods of operating for the removal of these growths that with Gottstein's curette or some of its modifications is, I think, the simplest and most efficient. It is right, however, that you should be acquainted with the various other methods which are employed, and I shall describe these, as well as the operation with Gottstein's curette, in the following order: (1) the natural finger-nail; (2) the artificial nail; (3) Hartmann's curette; (4) Gottstein's curette or its modifications; (5) Golding-Bird's curette; (6) Lowenberg's forceps and modifications; and (7) Meyer's ring-knife. Sometimes a combination of methods is adopted—the forceps for removing the large tough portions, and the curette and finger-nail for the softer variety and for those growing on the lateral walls of the pharynx. We shall first, however, consider—

The question of anæsthetics.—The question of whether or not an anæsthetic should be administered in the removal of adenoid vegetations, and, if administered, which is the safest and best, has been much discussed.[1] There is no doubt that a general anæsthetic adds a slight element of risk to this operation, which, without an anæsthetic, may be said to be absolutely free from danger. On the other hand, it is found that in the cases of children or very nervous adults it is very difficult without an anæsthetic to eradicate the whole of the growths, at any rate at one sitting. A general anæsthetic is more frequently given in this country than on the Continent, where it is quite customary to repeat the operation, it may be, several times. One of the chief risks in operating under an anæsthetic is that of blood finding its way into the larynx or bronchial tubes, causing asphyxia or failure of the heart's action or subsequent inflammation of the lungs. This danger may be said to be almost entirely averted by the adoption of a suitable position for the patient, by the prompt use of sponges, and, above all, by a proper method of giving the anæsthetic. In regard to the position of the patient during anæsthesia most surgeons operate with the patient's head hanging backwards over the end of the operating-table, so that the blood or fragments of detached growth may pass out through the anterior nares or mouth. Unfortunately, this dependent position of the head tends for the time being to increase the bleeding, which, however, as a rule, soon ceases after the head has been raised. Some operators, such as Mr. Hovell, prefer that the head should be on a level with the body and trust to the rapid mopping up of the blood with sponges. Mr. Butlin operates with the patient on his side, the thighs being flexed and the head bent a little forward on a low pillow. Mr. Braine, in giving nitrous oxide gas and ether, chiefly for the operation with the finger-nail, first places the patient in the semi-recumbent position, and, when the narcosis is sufficiently complete, he flexes the trunk forcibly on the thighs—the blood escaping from the mouth and nose into a basin placed between the patient's knees. In the curette operation under an anæsthetic I always operate with the dependent position of the patient's head, and even then rapid removal of the blood by sponges is necessary to prevent the suction of blood into the trachea. With nitrous oxide gas the sitting posture may be justifiable. In regard to the kind of anæsthetic employed, the fact of several deaths having occurred from the use of chloroform has led some to discard it and to resort to ether or nitrous oxide gas, or to both. It is alleged in favour of ether that the power of coughing and swallowing is generally retained, and that the noisy respiration of ether anæsthesia, compared with the quiet breathing of chloroform, keeps you better informed as to the state of the respiration; while in the event of obstruction to the respiration the heart's action under ether does not fail so quickly. On the other hand, the large quantity of frothy secretion which is usually poured into the throat and the more profuse bleeding due to great venous turgidity are highly objectionable features of ether narcosis; while the laboured and stertorous breathing, instead of being an advantage, may rather tend to suck the blood and frothy secretion into the larynx. Nitrous oxide gas may suffice with the nail operation or even with a rapid curette operation, but it does not allow of sufficient time for the use of forceps. In order to save time the gag should be introduced before the beginning of the administration of the gas. Some operators begin with nitrous oxide gas, then go on to ether, and when the patient is fairly deeply anæsthetised they continue with chloroform till the end of the operation. While I have operated both with ether and nitrous oxide gas as anæsthetics, my experience has led me to prefer chloroform, cautiously and sparingly given on a mask, with a plentiful supply of air, care being taken that while the corneal reflex is abolished the cough and swallowing reflex should not be entirely in abeyance. It is important, however, that, though very deep chloroform narcosis is to be avoided, it should be deep enough to relax the muscles of the face and to prevent retching during the operation. When the growths are numerous and large, prolonging the operation, the anæsthesia may be cautiously maintained by pumping in more of the vapour through a tube from Junker's apparatus held at the side of the gag. It is right to mention, however, that such an important authority on anæsthetics as Dr. Silk disapproves of giving chloroform or any other anæsthetic after anæsthesia has been induced and the operation begun. Upon the importance of this Dr. Silk places great stress. Here it may be remarked that a competent anæsthetist with special experience in these cases is of very great importance. He should wait beside the patient till perfectly satisfied that he is safely out of the anæsthetic. The deaths which have occurred seem to have been in some cases due to the neglect of this precaution. While the surgeon and anæsthetist turned aside for a few minutes to attend to some other matter, thinking the operation was safely completed and the anæsthesia passing off satisfactorily, the fatal result took place from sudden failure of the heart's action.

The finger-nail operation.—Some authorities—such as Mr. Pritchard, Mr. Field, and Mr. Lennox Browne—seem to trust entirely to this method, which was first advocated by Dr. Guye of Amsterdam. There is a decided feeling, however, on the part of most specialists that this method of removal is in general insufficient, and that when employed, subsequent operations are not infrequently required. Only in the softer and flatter forms, occurring in very young children, do I think the method of scraping them away with the finger-nail sufficient by itself to eradicate the growths. The

[1] THE LANCET, Feb. 18th, 1893. See report of discussion on this subject at the Harveian Society.

finger-nail may, however, be employed with advantage for the clearing away of remnants of growths after the use of a curette or forceps. If the finger-nail treatment be employed the nail of the right index-finger should be kept properly pared, so as to be neither too short nor too long. If too long the nail is apt to bend or even break when tearing off the vegetations. The finger-nail should, of course, be scrupulously clean, and before operating it is a good plan, as proposed by Mr. Pritchard, to immerse it for a short time in rectified spirits, both for its antiseptic effect and its hardening influence on the nail. If no general anæsthetic is given, a 10 per cent. solution of cocaine should be applied to the naso-pharynx either with a spray through the nasal passages or a plug of cotton on forceps introduced from the lower pharynx. The cocaine is more efficient in adults, as we are able in them to apply it more freely and with greater safety to the walls of the naso-pharynx than in children. The child is seated in a chair while the arms and legs are held firmly by assistants, and the right index-finger is introduced into the mouth, moved rapidly backwards, and turned up behind the soft palate. The nail of the finger is then made to tear or cut through the soft tissue in the roof and back wall and from the neighbourhood of the Eustachian prominences, if any there exist. In order to prevent the patient biting the finger of the operator the first phalanx and the metacarpo-phalangeal joint should be protected by thick indiarubber tubing, or, as some operators do, by pressing the cheek of the patient between the patient's teeth on the left side. In some cases the soft palate moves backwards before the finger so as to close the way to the naso-pharynx and prevent the introduction of the finger; in such cases I have found it a good plan to introduce a uvula retractor and press the uvula and soft palate firmly but gently forward with the left hand. When the finger is well into the naso-pharynx the retractor is withdrawn.

The artificial nail.—An artificial nail of steel is used by some authorities, such as Dalby, Capart, and Bezold. It is fixed to the index-finger, and, being of course stronger than the natural nail, is more capable of penetrating and removing the growths. But I have found its use unsatisfactory owing to the impaired tactile sensibility and the increased bulk of the finger preventing safe and efficient use. Justi and Trautmann employ an artificial nail fixed on the end of a stem which is attached to the finger. Of this method I have had no experience.

Gottstein's curette.—Gottstein's curette is a triangular fenestrated instrument attached at a right angle to a long handle. The inner edge of the base of the triangle is sharp as a knife. This is the instrument which I now generally employ in removing these growths, and I have found this method more convenient and satisfactory than any other. In this my experience agrees with that of Politzer, Rosenberg, Semon, McBride, and others. In this country, when Gottstein's curette is employed, the patient is usually anæsthetised with chloroform, and lies on his back with the head hanging well over the end of a table, supported with the hands of an assistant, the back of the neck resting on a firm pillow. A waterproof cap, similar to a bathing cap, should cover the head in order to prevent the blood which flows from the nose mingling with the hair. A large towel or piece of jaconet should envelop the upper part of the body. A gag (Mason's) should be applied on the left side, well guarded with thick indiarubber tubing so as not to injure the teeth or gums. The teeth should be examined, and if a loose tooth is found care must be taken in case the gag should separate it altogether, and endanger the patient by the tooth slipping into the larynx during the operation. The chloroformist is at the head of the patient, the operator on the right side, and an assistant for attending to the gag and sponges at the left side. A dozen small honeycomb sponges, clean and aseptic, secured on sponge-holders, should be at hand. The finger is introduced into the naso-pharynx to determine the quantity, situation, and character of the growths. The triangular end of the curette is then introduced behind and above the soft palate, with its convexity upwards and backwards, avoiding the lateral walls, until the blunt edge of its base is in contact with the posterior edge of the nasal septum. The handle is now grasped firmly, the curette is pressed well down upon the roof of the pharynx, and drawn backwards and then downwards, so that the sharp edge is made to sever all the vegetations in its sweep. With the ordinary curette the vegetations, removed in this way, are either expelled through the nose, mingled with the blood, or are mopped out with the sponges, or are swallowed. A useful modification has recently been introduced in which there is an arrangement with two sharp prongs in front of the triangular steel frame for detaining the vegetations cut off with the sharp edge of the curette. I usually employ three strokes before withdrawing the curette, and then, with one sponge quickly introduced after another into the pharynx, the blood is mopped up by the assistant. Once more the cavity is examined with the finger, and if any growths are still found the curette is again introduced, or the finger-nail may be sufficient. If the curette is employed without an anæsthetic the patient should be seated on a chair having a low, broad-cushioned back, over which the head is bent and supported by an assistant. After cocaine has been freely applied to the walls of the naso-pharynx, the tongue is pressed down with a spatula, and the curette is employed in the same manner as when an anæsthetic is used.

Hartmann's curette.—Hartmann's curette is preferred by some operators, such as Krause of Berlin, and Brunner of Bradford. The force is applied laterally and not antero-posteriorly, as with Gottstein's curette. An anæsthetic is rarely used by those who employ this instrument. The patient, if a child, sits upon the knee of a trained assistant, who, with the legs and left hand, fixes respectively the patient's legs and arms, and at the same time holds the patient's head firmly, with the palm of the right hand placed firmly against the patient's fore-head. In this way the head of the patient is held immovably against the chest of the assistant. Light is reflected into the throat, the tongue is depressed by a spatula, and the curette is pushed up into the naso-pharynx. It is firmly pressed on the posterior wall and roof of the naso-pharynx, then it is moved, as on a pivot, to one of the lateral walls, and the edge of the curette is made to sweep across to the opposite side with firm pressure so as to sever and remove the vegetations in its course. My limited experience of this method of operating has not impressed me favourably. I do not think it is so efficient as Gottstein's instrument, as it usually leaves untouched the growths in the front part of the naso-pharynx, while I think it is apt to injure the Eustachian prominence and excite middle-ear disease. My friend, Dr. Seright, however, who frequently witnessed its use in Krause's hands, believes it to be a very efficient instrument.

Golding-Bird's curette.—This is an oval fenestrated instrument connected with a long stem bent at rather more than a right angle near the fenestra. The cutting or scraping edge, instead of being on the inner aspect of the base, is found on the lower side. It is applied in a similar way to Gottstein's curette, but on account of the position of the scraping edge it penetrates more deeply and is particularly suitable for scooping out the growths situated at the junction of the roof and back wall of the naso-pharynx. Whilst I have not had much experience of this instrument it seems to me a serviceable one.

Löwenberg's forceps and modifications.—Many operators prefer the use of forceps devised by Löwenberg and modified at different times by various workers. Up till a year or two ago my own method was to operate with forceps, and I found them particularly suitable with the patient in the sitting posture. There is no doubt that when patients or their friends shrink from the use of a general anæsthetic, this mode of operating is probably more convenient and less painful than other methods. With the patient seated on a chair, and the head, arms, and legs firmly held, light is reflected in the ordinary way into the pharynx. With the blades closed the forceps are introduced as far as the posterior wall of the pharynx. The blades are then pushed up to the roof of the naso-pharynx, when they are widely separated and made to lay hold of one or more of the adenoid projections, which are brought away partly by cutting and partly by traction. The forceps may in this way be introduced three or four times at one sitting. The blades of the forceps should have their cutting edges above and behind, while there should be a free space in front, so as to lessen the chance of catching hold of the septum of the nose. Owing to the anxiety of the operator to avoid the septum the growths immediately behind it are apt to escape the forceps. Mr. Hovell (who discards all curettes or scraping instruments) has modified the forceps so that the two cutting edges are circular and do not meet edge to edge, but are so arranged that the one blade encloses the other, their action being thus that of a punch. He claims for this modification that it avoids the risk of pulling away shreds of mucous membrane or of injuring the septum.

Whatever forceps may be used it is important that they should not be too large. Many of those sold by instrument makers are much too large for children, in whom, as you know, most of the cases of post-nasal growths occur. Just as after the curette operation, the finger-nail may be used with advantage to remove any fragments which may remain after the forceps have been employed. If the operation is performed during anæsthesia the patient should lie on his back with his head on a level with the body. A gag is used as in the curette operation, and the index-finger of the left hand is introduced into the naso-pharynx with the back of the hand downwards and forwards so as to guide the blade of the forceps to the individual growths. In this way the forceps are introduced several times and the growths individually pulled or cut away until, as informed by the finger, they are all removed. This sounds very satisfactory, but in practice it is often found to be no easy matter to accommodate the index-finger and the blades of the forceps in the small naso-pharynx of a child so as to manipulate freely, and the efforts to do so often lead to much bruising and injury of the parts. When operating with the forceps, while the head hangs over the end of the table, especially great care should be taken to avoid laying hold of the septum. I hold a skull before you in this dependent position, and you will see how very apt it is for the forceps to lay hold of the septum. Indeed, in this position the use of the forceps is unjustifiable unless one is able with the left index-finger to guide accurately the blades of the forceps.

Meyer's ring-knife.—We must not omit to mention the method of operating adopted by the late Professor Meyer of Copenhagen, to whom the profession is under a deep debt of gratitude for being the first to draw attention to the existence of these growths in the naso-pharynx. He operated through the nasal passages and used a ring-knife having one sharp edge, attached to a steel stem, which is introduced through the wider nasal passage. When the knife has reached the naso-pharynx it is turned horizontally if the growth is in the roof. The left index-finger of the operator is introduced through the mouth into the upper pharynx, and the ring-knife is pressed up so as to encircle one of the growths, when the knife is drawn forwards, severing the growth. Few operators have followed this method of Meyer.

After-treatment.—It is well after an anæsthetic operation that the patient be turned on his side, retaining the head on a level with the body, or somewhat raised, while the gag is kept between the teeth for a minute. Some operators, in order to prevent bleeding, maintain pressure on the walls of the naso-pharynx for a few minutes with a sponge or folded gauge or curved forceps. In most cases, however, blood is swallowed in considerable quantity, frequently exciting vomiting, the vomited matter consisting of blood mixed with the contents of the stomach. It is well always to warn the friends that vomiting is likely to take place, if it has not already done so, and that someone should be at hand beside the patient ready to help. Pieces of ice placed in the mouth, or even in the nostrils, after the patient has regained consciousness tend to check the sickness. The ice may be given at intervals for twenty-four hours, during which the patient should abstain from *hot* liquids or solids. Bleeding of an alarming nature is very rare, but I have been twice sent for, a few hours after the forceps operation without an anæsthetic, owing to pretty copious bleeding. Pressure upon the roof of the naso-pharynx by means of a fold of cotton moistened with a styptic solution, introduced with forceps, easily controlled it. The patient should rest in bed for two days and keep the house for a week after the operation, during which no local treatment of the nose with douche or syringe should be employed. These precautions are especially important in damp, cold weather, so as to avoid middle-ear inflammation, which I have, however, almost never found in my own practice to follow this operation. There is no doubt that injudicious nasal treatment after the operation is apt to excite inflammatory mischief in the middle ear.

Enlarged tonsils.—Not infrequently these growths are found associated with hypertrophied tonsils, which are often regarded erroneously as the sole cause of the nasal obstruction and the deafness. Probably the safest plan is to first remove the enlarged tonsils, without, if possible, an anæsthetic, and then, after the healing process is complete, the post-nasal growths should be operated upon. Some specialists remove the tonsils and the post-nasal growths at the same time under an anæsthetic, and in certain cases this is perhaps the best method. To produce so extensive a bleeding surface, however, might in some persons be attended by considerable risk, partly from the bleeding and partly from the greater risk of septic infection.

Mouth breathing after operation.—If mouth breathing continue in spite of the operation, and we are confident that the post-nasal growths have been thoroughly eradicated, we should carefully examine the nasal passages in order to make sure that no obstruction exists there. If, in either side, the inferior spongy body is found to be enlarged or hypertrophied, cauterization with the galvanic cautery or chromic acid may be required. In mild forms of obstruction a prolonged but careful use of an alkalo-saline solution with a spray apparatus or a suitable syringe may prove sufficient. If the obstruction be due to spurs upon the septum or deflections, these may require operation, but such forms of obstruction are not common in childhood. If, after the mechanical impediment of free nasal breathing has been removed, the mouth breathing still continues, means must be adopted to help the person to overcome this habit. The simple plan should be first tried of causing the patient to sit still for fifteen minutes, twice or thrice daily, during which he studiously keeps the mouth closed and breathes through the nose alone. If after a time this prove insufficient, an appliance should be provided consisting of a small indiarubber cup, on which the chin rests, the cup being kept in position by means of bands secured round the head. This should be worn for a time at night so as to keep the lower jaw from falling. Or we may use an indiarubber band with a mouthpiece of soft leather secured round the head during sleep, so that the leather mouthpiece covers the mouth and compels nasal breathing. Another plan, which I have known a female patient to adopt, is to retain the lips in contact by means of long strips of sticking-plaster. Some writers ridicule the use of these aids to nose breathing, alleging that if the nose and naso-pharynx are really free from obstruction, the breathing will naturally become nasal without any such contrivances, and that if there is defective nasal breathing we shall find a mechanical cause in the nasal cavities, which must be removed by suitable treatment. I am, however, disposed to differ from those writers. I have undoubtedly seen cases remedied by these artificial helps, where the mouth breathing had persisted after ample breathing space had been secured in the nose and naso-pharynx.

General treatment.—In connexion with post-nasal growths there is not unfrequently a constitutional flaw, such as the strumous or anæmic condition. Iron tonics, cod-liver oil, plenty of fresh air, and a sufficiency of nutritious food may, therefore, prove important additions to the operative treatment.

THE PREPARATION OF ANTIRABIC SERUM AND THE METHOD OF DETERMINING ITS STRENGTH.

BY PROFESSOR GUY TIZZONI AND DR. EUGENE CENTANNI.

I.—ACCOUNT OF SERUM-HEALING IN RABIES.

BABES and LEPP,[1] when treating of vaccination against rabies, have tried to determine whether with the blood of a vaccinated animal it is possible to transmit immunity from that disease to another animal. In spite of all the experiments performed to settle this question, they tell us nothing of those practised on the rabbit, so as to enable us to judge of the value of the final result of the experiments, or whether misleading results had been obtained, either through the infection having been brought about by an unreliable method, such as that of subcutaneous injection, or through all the animals having died too soon from an intercurrent disease for the full results to have been observed. Nor, on the other hand, can those performed upon the dog (four in all) have an absolutely trustworthy value, since the two successes obtained upon this animal are reduced in reality to one single experiment in which the animal was infected by trephining. Nor can another experiment be

[1] Recherches sur la Vaccination Antirabique. Annales de l'Institut Pasteur, Nov. 7th, 1889.

accepted as being of proved worth, in which, though the animal survived the infection a long time, it had been determined by a method so little reliable as is the infliction of the bite of a rabid dog. Not until four years after these researches were made known did we commence the publication of a long series of experiments, all carried out in this institution, and by which we are not only able to state that the question of serum-healing in rabies has been studied, but we are able to declare, further, that it has been definitely solved. All these researches were made upon the rabbit because it was possible by such means to give to the experiment a wider scope, but also—the rabbit being an animal much more susceptible to rabies than is the dog (?)—the results obtained upon it would have a greater value.

In a former work it was shown[2] that the serum of vaccinated animals is able, not only to destroy *in vitro* the pathogenic power of the virus of rabies (*virus fixe*), canine virus of the streets during the process of transition (exaltation) and also when fixed, but is also capable of preserving the rabbit from rabies and of hindering the development of the disease when the infection has been made twenty-five hours before the treatment. It was proved that the serum of the rabbit has in that animal a stronger protective action than that of the dog; that the active substance of this serum in the presence of magnesium sulphate behaves like a globulin and is not dialysable; and that it is precipitated with alcohol and with neutral salts, but loses in this precipitation part of its activity. Later, with a view to extending our researches on serum-healing in rabies and of drawing from these the greatest results possible, as much for the benefit of science as for advantage in practice, a new method of vaccination against rabies was sought which should give a higher degree of immunity than that obtained by Pasteur's method. Taking as a starting-point the experiments of Eusebius Valli,[3] we established satisfactorily that the gastric juice at first effectively weakens and at last completely destroys the pathogenic power of the virus of rabies, whilst at the same time it does not interfere with its vaccinating power. Therefore, following this path patiently with a numerous series of experiments, we succeeded[4] in determining the principles of a new method of vaccination—with virus weakened by gastric juice—a method of vaccination which in honour of Valli, from whom we have taken the idea, and to distinguish it further from the French method devised by Pasteur, we have designated the "Italian method of vaccination against rabies," the superiority of which was at once clearly demonstrated by the positive results obtained by us in the vaccination of the rabbit against infection with the virus of the dog, and by the possibility of protecting that animal comparatively easily even against subdural infection with a fixed virus. A serum of the highest protective power being obtained by this method, it was easy to demonstrate with it in successive and unvarying experiments that the alcoholic precipitate of the serum of vaccinated animals serves, not only to hinder the development of the disease when it is injected a little before or after the infection practised under the dura mater or on the nerve, but leads to the same result even when the virus is infected long before—i.e., during the period of incubation (seven to fourteen days as against the canine virus)—and even succeeds in stopping the course of the disease when the injections are practised[5] after the first symptoms have shown themselves. A demonstration more absolute than that of the efficacy of serum-healing in rabies and the advantages which it has over vaccination with Pasteur's method can certainly not be offered. Lastly,[6] we proved that the results obtained in the rabbit by the Italian method of vaccination against rabies could also be obtained in larger animals—viz., dogs and sheep—and that from the species of sheep employed could be drawn a protective serum sufficient in quantity and curative power for all practical requirements. We succeeded in determining the dose to be injected into those animals in order to confer immunity upon them—a decided step forward—whilst we were able to trace the curve which represents at various periods of the vaccination the quantity of the protecting substance in the blood, thus indicating the best time at which to take the blood for use.

After the publication of the first of our memoirs upon serum-healing in rabies, Babes communicated to the International Congress of Hygiene in London (August, 1891) the results of experiments made upon man with serum collected partly from a protected man and partly from a protected dog. But to these observations great value cannot be attached—it may be because they are wanting in accurate experimental basis or because they were made according to the method of Pasteur. Shortly afterwards appeared the extended work of Babes and Cerchez[7] on the same subject, in which were related two new successful cases obtained on the dog with the serum of blood of vaccinated dogs, but for the rabbit the conclusion was again arrived at "que le sang du chien réfractaire inoculé aux lapins, avant ou après infection avec le virus de la rage, n'atténue pas sensiblement sa virulence." So, while our first work appeared at a time when, with regard to serum-healing in rabies, science could only point to the success of Babes on the dog, it demonstrated absolutely that the serum of the blood of a vaccinated animal injected into the rabbit either before or after the infection hinders the development of rabies, and enabled us at last to understand the principal property of the protective substance contained in the serum; whereas in the work of Babes, which appeared after ours, the possibility of saving the rabbit by means of the serum of a vaccinated animal was still disputed. A final memoir upon serum-healing in rabies has been published by Babes and Talasescu.[8] The authors in this work record results better than those obtained in their preceding experiments: they were completely successful in the rabbit, and were able to inject largely the quantities of serum (into a medium-sized animal of 5·0 c.cm., and sometimes up to about 15 c.cm.), yet here, as in their earlier experiments, any plan of obtaining results always constant and favourable is still wanting. Moreover, among all the experiments related, on two or three only can reliable opinions be formed, the other animals having invariably died, either after a few days from accidental causes, or from something or other not well determined, in which one seems to recognise the symptoms of a wasting rabies[9] due to the serum not conferring sufficient immunity when the virus of rabies is transmitted from dog to dog. Hence the most recent results obtained by the authors cited can be relied on to confirm a fact which is now already the patrimony of our science, nor do they in any way illustrate the more important question which to-day science and practice in turn demand should be solved—that is, to determine the precise conditions on which the same fact is constantly verifiable to investigate the mechanism of its production, and finally to establish all those data by which serum-healing in rabies can be entered upon in practice, no longer blindly and guided only by the caprice of the physician, but illuminated even in the smallest particulars by the light of experiment. It is precisely to this end that our studies have been directed, and, taking our preceding researches as a starting-point, we have tried to acquire a better result in those points in which they seemed to be imperfect: to give an account of some exceptions which from time to time were met with in the preceding experiments; and, lastly, to solve other particulars of the question, a knowledge of which we have believed to be indispensable before passing from animals to the application of the treatment to man.

II.—MODE OF PREPARATION AND PRESERVATION OF THE ANTIRABIC SERUM.

We shall in this part study the following points: (1) the number of injections, the length of the period of vaccination, the quantity of material to be injected, and the degree of its attenuation necessary to obtain an immunity sufficiently high—it may be with the first series of injections or

[2] Tizzoni and Schwarz: The Serum of Animals Vaccinated against Rabies in its Immunity from and Treatment of that Disease. Riforma Medica, No. 188, Aug. 22nd, 1891.

[3] Biographical Notes of Dr. Eusebius Valli of Ponsacce, Pisa. Pontedera, 1886.

[4] Centanni: The Italian Method of Vaccination against Rabies, communicated to the Royal Academy of Science of Bologna at the sitting of April 24th, 1892. Riforma Medica, Nos. 102, 103, and 104, May, 1892.

[5] Tizzoni and Centanni: On the Cure of Rabies developed in Animals. Statement made to the R. Accad. dei Lincei, May 8th, 1892. Riforma Medica, No. 182, May, 1892. Deutsche Medicinische Wochenschrift, No. 27, July 7th, 1892, p. 624. Further Researches on the Cure of Developed Rabies. Riforma Medica, No. 182, August, 1892. Deutsche Medicinische Wochenschrift, No. 31, Aug. 4th, 1892.

[6] Tizzoni and Centanni: That Serum for Rabies at its Highest Protective Power is applicable to Man. Memorial read at the Royal Academy of Science at Bologna, at the sitting of Dec. 10th, 1893. Berliner Klinische Wochenschrift, No. 8, 1894.

[7] Experiments upon the Attenuation of the Fixed Virus of Rabies. Annales de l'Institut Pasteur, No. 10, 1891.

[8] Etudes sur la Rage. Annales de l'Institut Pasteur, No. 6, Juin, 1894, p. 435.

[9] Celli and Marino Zuco: Annals of the Institute of Hygiene of the University of Rome, vol. ii., 1892.

with a series of progressively increasing strength; (2) whether the strengthened injections can gradually raise the original immunity obtained with the first series of vaccinations, and up to what limit; (3) the interval which should be allowed to elapse between the different series of the strengthened injections in order to obtain the best results from them; (4) the most favourable moment for taking the blood of a vaccinated animal; and (5) the mode of preservation of the antirabic serum which for facility, economy, and safety best corresponds to clinical needs. All these questions have been studied by us on the sheep, which we were aware, through our preceding researches, was the animal most adapted to furnish material of the highest protective power necessary to satisfy the needs of practice.

1. *Number of injections, length of period of vaccination, quantity of material to be injected, and the degree of attenuation necessary to obtain with the first series of vaccinations a fundamental immunity of sufficiently high degree.*—In this respect we have been able to confirm and also better to determine much that we had established in our preceding experiments. Thus in four other sheep we have obtained by means of the constant mode during the first series of vaccinations serum of the highest protective power, and have determined more exactly that to arrive at this end seventeen injections in twenty days must be made, each injection consisting of 0·25 gramme of the nerve substance properly weakened by gastric juice, as described in our previous work, for every kilogramme of the animal's body weight. In fact, with the serum of these animals we succeeded, by the *constant mode*, in saving rabbits from subdural infection with an infecting unit of the canine virus (as demonstrated elsewhere), not only when there were injected under the skin, twenty-four hours before infection, considerable quantities of serum (5 to 0·33 c.cm.), but also when the serum injected was in the proportion of 1 part of serum to 25,000 of body weight, as shown in Table I.

The establishment of the data given in the series of injections was also more important than during the first vaccinations, in order not to be always obliged to have recourse to fresh animals in the preparation of the antitoxin of rabies, which, not possessing any original immunity, would have at least to undergo a longer series of injections in order to give material as powerful as that of the revaccinated animals. The numerous trials patiently carried out to this end on our sheep have demonstrated to us that in revaccination the best result with respect to the degree of the protective power of serum is met with where ten injections have been administered in twelve days, each injection consisting of 0·25 gramme per kilogramme of the weight of the body of nerve substance duly diluted. In such a way we succeed in obtaining a serum which, in the quantity of 5 to 2 c.cm. for subcutaneous injection, and finally in the proportion of 1 to 25,000 compared to the weight of the body, invariably saves the rabbit from subdural infection with the canine virus administered twenty-four hours afterwards (see Table II.).

In these experiments, then, we have been able to demonstrate clearly that the quantity of the material which is injected is of very great importance in the production of the protective substance of the serum, but also that, beyond a certain limit, the quantity of nerve substance, more or less diluted, which is introduced by these injections is harmful rather than a help. Thus, taking from ten to twelve as the number of the progressive injections, and each time injecting one-fourth rather than one-third of a gramme of nerve substance per kilogramme of the body's weight, we find that the serum collected has a very much lower strength—about half that of the preceding case. In fact, not one of the rabbits injected under the skin with this serum in the proportion of 1 to 25,000 compared to the weight of the body resisted the subdural infection with the infecting unit of the canine rabic virus; and with the proportion of serum indicated we succeeded in saving these animals when the dilution of the virus was only increased twofold, keeping fixed the quantity of emulsion which is injected under the dura mater, which was equivalent to lowering the strength of the serum by about one-half (see Table III.). Our researches have also resulted in showing the very great influence which the degree of attenuation of the virus has upon the production of the protective substance of the serum—an influence which necessarily appeared greater when, in the hope of shortening by some days the period of vaccination, we increased contemporaneously the dose of the nerve substance injected each time—carrying it, that is to say, to one-third of a gramme per kilogramme of the body weight. In the following experiments with serum taken at the same period of time from Sheep I., II., and III.—all revaccinated with eight injections made in from eight to nine days, being infected each time with one-third of a gramme of nerve substance per kilogramme of the weight of the body, while in the last four injections the mass of the virus was not subjected to any digestion with gastric juice, hence virulent in the highest degree—we have found that the subcutaneous injection of the serum of the first sheep in doses of from 2 to 3 c.cm. saved the rabbits from subdural infection with the infecting unit of the canine virus in the proportion of 62 per cent. We have found that that of the second and third sheep, in the quantity of 2 c.cm., gave under the same conditions a mortality of 100 per cent.; and, finally, that that of the third sheep, given in the quantity of 5 c.cm., gave, against the same infection, a percentage of cure of only 66, as will be seen from Tables IV., V., and VI.

The influence of the conditions indicated upon the production in the serum of the antitoxin—i.e., the number of the injections, the length of the period of revaccination, the quantity of nerve substance injected, and its degree of attenuation—appears hence to be more evident when the results obtained on the same animal in two revaccinations are compared, as in the second and third revaccination of Sheep I. (see Tables II. and IV.)—the first comprising eight injections in eight days with a dose of one-third of a gramme per kilogramme of nerve substance (in the four last injections not digested at all), while in the second there were ten injections in twelve days with a dose of a fourth of a gramme per kilogramme of nerve substance and with all the virus more or less digested for a considerable time. Meanwhile, with this second manner of revaccination, which we hold to be the best, we have 100 per cent. of cures; whilst when the quantity of serum is to the weight of the body as 1 to 25,000 we obtain with the first hardly 62 per cent. of cures when from 2 to 3 c.cm. of serum are injected—a quantity that is thirty-five times as great as that which was given in the preceding case. Hence it stood confirmed by our researches what had been affirmed in one of our earliest works upon rabies—that the virus of rabies[10] in its attenuation by the Italian method—that is, with half the digestion performed by gastric juice—whilst it loses its virulence by degrees, does not lose—or only very slightly—its vaccinating power. We may add to this that the virus of rabies not submitted to any digestion may be hurtful, not only from the absorption of poisonous products, but also because the materials injected in that condition can be more easily absorbed. It is worth while, further, to put forward another very great advantage which vaccination with the virus digested by gastric juice must have over that in which the nerve substance diluted by means mostly physical is injected diluted only with water, as is practised in the Pasteurian method. The methods of vaccination and revaccination which we have found to be the best are better tolerated by the animals. These, especially at the first injections, are affected by slight shock; they remain more willingly in the lying position, eat less, and show that their movements are only slightly hampered, especially in the hinder part, perhaps from the mechanical distension of the skin produced by the injection, generally performed in the region of the flanks; but soon, even during the process of vaccination, they regain their vivacity and the appetite. The weight of the body is lowered during the vaccination by 3 or 4 kilogrammes, but after this has been accomplished it increases rapidly, so that the injections appear to have a fattening effect. Thus, Sheep I., thirty days after the first strengthened series, rapidly increased in weight from 18·380 to 21 kilogrammes; Sheep III. went from 28 to 36 kilogrammes only twenty-six days from the date of the vaccination.

2. *Whether the strengthened injections are able to gradually raise the original immunity obtained with the first series of vaccinations, and up to what limit.*—This also was a very important question; it was of the greatest interest to know whether, after deducting the time necessary for the vaccination, there could be obtained a material as strong again as that found with a successively strengthened series, or whether with these, at a standard which was always increasing, one would be able to have the serum of a protective power always raised to a corresponding degree. Such a

[10] Centanni, loc. cit.

TABLE I.

Source of the serum.	Number of register.	Weight of the rabbit in kilogrammes.	Infecting units of canine virus under the dura mater.	Quantity of serum injected under the skin twenty-four hours before infection. Absolute.	Quantity of serum injected under the skin twenty-four hours before infection. Relative.	Result of experiment.	Percentage of survivals.
SHEEP III. First vaccination with seventeen injections in twenty days of 0·25 gramme per kilogramme each. Virus always digested.	35	1·560	½	c.cm. 0·062	1 : 25,000	Lived.	100
	32	1·500	1	,, 0·06	1 : 25,000	,,	
	34	1·410	1	,, 0·057	1 : 25,000	,,	
	147	1·170	1	,, 0·333	1 : 25,000	,,	
	148	1·510	1	,, 0·333	1 : 25,000	,,	
	98	1·350	1	,, 5·000	1 : 270	,,	
	100	1·390	1	,, 5·000	1 : 278	,,	
	99	1·370	2	,, 5·000	1 : 274	Died 28th day.	

TABLE II.

Source of the serum.	Number of register.	Weight of rabbit in kilogrammes.	Infecting units of canine virus under the dura mater.	Quantity of serum injected under the skin twenty-four hours before infection. Absolute.	Quantity of serum injected under the skin twenty-four hours before infection. Relative.	Result of experiment.	Percentage of survivals.
SHEEP I. Four vaccinations with ten injections in twelve days of 0·25 gramme per kilogramme each. Virus always digested.	140	1·960	1	c.cm. 0·08	1 : 25,000	Lived.	100
	141	1·730	1	,, 0·07	1 : 25,000	,,	
	144	2·220	1	,, 2·00	1 : 1,110	,,	
	145	2·140	1	,, 2·00	1 : 1,070	,,	
	117	1·640	1	,, 5·00	1 : 330	,,	
	118	1·500	1	,, 5·00	1 : 300	,,	
	119	1·320	1	,, 5·00	1 : 264	,,	

TABLE III.

Source of the serum.	Number of register.	Weight of rabbit in kilogrammes.	Infecting units of canine virus under the dura mater.	Quantity of serum injected under the skin twenty-four hours before infection. Absolute.	Quantity of serum injected under the skin twenty-four hours before infection. Relative.	Result of experiment.	Percentage of survivals.
SHEEP II. Second vaccination with twelve injections of 0·33 gramme per kilogramme each in seventeen days. Virus always digested.	41	1·600	2½	c.cm. 0·064	1 : 25,000	Died.	—
	42	1·680	2½	,, 0·067	1 : 25,000	,,	
	49	1·680	1	,, 0·067	1 : 25,000	,,	
	50	2·250	1	,, 0·09	1 : 25,000	,,	
	48	1·620	½	,, 0·065	1 : 25,000	Lived.	100
	67	1·860	—	,, 0·075	1 : 25,000	,,	

TABLE IV.

Source of the serum.	Number of register.	Weight of rabbit in kilogrammes.	Infecting units of virus "da strada" under the dura mater.	Quantity of serum injected twenty-four hours before infection. Absolute.	Quantity of serum injected twenty-four hours before infection. Relative.	Result of experiment.	Percentage of survivals.
SHEEP I. Third vaccination with eight injections in eight days of 0·33 gramme per kilogramme each. Last four injections with undigested virus.	78	1·580	2½	c.cm. 0·032	1 : 50,000	Died.	—
	79	1·270	2½	,, 0·052	1 : 25,000	,,	
	76	1·900	2½	,, 2·0	1 : 950	,,	
	80	1·140	2½	,, 2·0	1 : 570	,,	
	81	1·750	1	,, 1·40	1 : 1,250	,,	62
	82	1·820	—	,, 1·46	1 : 1,250	,,	
	83	2·020	—	,, 1·62	1 : 1,250	Lived.	
	92	1·960	—	,, 2·0	1 : 980	,,	
	93	2·200	—	,, 2·0	1 : 1,100	,,	
	94	2·330	—	,, 2·0	1 : 1,165	Died.	
	97	2·500	—	,, 2·0	1 : 1,250	Lived.	
	77	2·800	—	,, 3·0	1 : 933	,,	

TABLE V.

Source of the serum.	Number of register.	Weight of rabbit in kilogrammes.	Infecting units of virus "da strada" under the dura mater.	Quantity of serum injected under the skin twenty-four hours before infection. Absolute.	Quantity of serum injected under the skin twenty-four hours before infection. Relative.	Result of experiment.	Percentage of survivals.
SHEEP IV. Third vaccination with eight injections in eight days of 0·33 gramme per kilogramme each. Last four injections with undigested virus.	63	1·740	$\frac{1}{2}$	c.cm. 0·071	1 : 25,000	Died.	—
	70	1·720	1	,, 1·72	1 : 1,000	,,	—
	71	1·700	1	,, 1·70	1 : 1,000	,,	
	72	1·590	1	,, 1·60	1 : 1,000	,,	
	73	1·770	1	,, 1·80	1 : 1.000	,,	

TABLE VI.

Source of the serum.	Number of register.	Weight of rabbit in kilogrammes.	Infecting units of virus "da strada" under the dura mater.	Quantity of serum injected under the skin twenty-four hours before infection. Absolute.	Quantity of serum injected under the skin twenty-four hours before infection. Relative.	Result of experiment.	Percentage of survivals.
SHEEP III. Second vaccination of eight injections in nine days of 0·33 gramme per kilogramme each. Last four injections with undigested virus.	111	1·850	1	c.cm. 2·0	1 : 925	Died.	—
	112	1·940	1	,, 2·0	1 : 970	,,	—
	88	1·430	1	,, 5·0	1 : 290	,,	
	101	1·510	1	,, 5·0	1 : 300	Lived.	66
	102	1·500	1	,, 5·0	1 : 300	,,	

TABLE VII.

Day of taking the blood.	Number of register.	Weight of rabbit in kilogrammes.	Infecting units of canine virus under the dura mater.	Quantity of serum injected twenty-four hours before infection. Absolute.	Quantity of serum injected twenty-four hours before infection. Relative.	Result of experiment.	Percentage of survivals.
Tenth day	139	1·680	1	c.cm. 0·061	1 : 25,000	Died.	50
	138	1·770	1	,, 0·07	1 : 25,000	Lived.	
	143	1·970	1	,, 2·0	1 : 985	Died.	50
	142	2·500	1	,, 2·0	1 : 1250	Lived.	
	103	1·320	1	,, 5·0	1 : 1264	,,	100
	104	1·380	1	,, 5·0	1 : 276	,,	
	105	1·190	1	,, 5·0	1 : 238	,,	
	106	1·340	1	,, 10·0	1 : 134	,,	100
Twenty-fifth day	140	1·960	1	c.cm. 0·09	1 : 25,000	Lived.	100
	141	1·930	1	,, 0·07	1 : 25,000	,,	
	144	2·220	1	,, 2·0	1 : 111	,,	100
	145	1·140	1	,, 2·0	1 : 570	,,	
	117	1·640	1	,, 5·0	1 : 328	,,	100
	118	1·500	1	,, 5·0	1 : 300	,,	
	119	1·300	1	,, 5·0	1 : 264	,,	

question, then, was very important, not only in connexion with the cure of rabies, but also with general considerations on vaccination made with a view to find curative serum and with the solution of the problem at present so keenly debated and of such interest from the therapeutical point of view, whether the intensified injections are able to increase without decreasing the protective power of the serum, or whether the protective power of this is able to combine only within determined limits with the poisoning power of the vaccinating material used. The question is excessively important, and we are able to pronounce upon it in a concise and general way. In so far as the infection of rabies is concerned, we are inclined to hold, through observations made on many animals and in many series of experiments, that in this infection a series of vaccinating injections, when they are made of material of constant quantity and power, gives always, as many times as it is repeated on the same animal, a serum of the same degree of activity. We have seen in part in the reports given above (Table I.)—and it will appear more clearly in the experiments which we report further on (Tables XIII. and XVI.)—that already with the first series of vaccinations upon a fresh animal we can have at one stroke the highest type of protective serum, and that on repeating successively on the same animal at various times one and the same series of vaccinations, at intervals varying from two to five months, the protective power of the serum is maintained at a constant level. And, for this reason, we are inclined to believe that in rabies the power of the blood may be a power exclusively passive, in the sense that we do not treat of a special function which the organism may acquire and render perfect under the stimulation of the modified virus; most certainly the substance to which the serum owes its activity proceeds directly from the material which little by little pours itself out in a circle near the subcutaneous deposit of such virus. This is certain: We cannot expect an increase of value in our serum by repeating the series of vaccinating injections of animals which have been previously deeply and repeatedly vaccinated; we ought to trust rather in the progressive improvement of the vaccine itself, rendering it more supportable and more concentrated.

3. *The interval which should be allowed to elapse between the different series of the intensified injections in order to obtain the best results from them.*—With regard to this question we have been able to establish that the sheep is sufficiently tolerant of these injections of rabid virus, and that without

exhausting the animal too much the vaccinations may be repeated every two or two and a half months. The only object of leaving a sufficient time between each revaccination is not to stimulate to excess the subcutaneous connective tissue, in order not to run into any difficulty by making the revaccinations too soon, by beginning a new series before the irritative effects of the last have faded away or are repaired; besides which, there are the not very serious effects which must necessarily be produced in the preceding series by the mechanical and chemical action of the injected emulsion—as a result of which the absorption of the active material must be made with great difficulty. And we have often said the rapid and complete absorption of the vaccine on the part of the connective tissue is an essential and indispensable condition because the protective power of the serum can be raised at a given moment to much higher degrees, since it is natural that the suppuration of the infected part and other complications may detract from the wealth of antitoxin in the blood, because with this are separated, destroyed, or eliminated the useful part of the injected vaccinated material, and the organism is thus deprived of a portion more or less great of the products to which the serum owes its protective and curative properties. To collect on a sufficiently large scale the nervous system of a rabid animal, and to keep it aseptic amidst all the manipulations to which it must be subject up to the moment in which it is injected under the skin of the sheep, we are now provided with satisfactory appliances, and after a long trial we have met with the best means of avoiding any complication in the injection of vaccine—above all, the suppuration of the part injected.

4. *The most favourable moment for taking the blood of a vaccinated animal.*—We have already expressly occupied ourselves with this question in our preceding work,[11] but during the present and last years, having gathered much material from our studies, and being in possession, as we shall see in the following part, of methods more exact for the determination of the protective powers of the serum, we have not wished to neglect to review them, but to extend and definitely settle this point of the question, it being so important to gain from the vaccinated animals the best results possible in the serum-healing treatment. Nor in order to establish these data have we been able in any way to have recourse to as much as has already been made known in regard to the best moment for taking the blood in other infections, especially in tetanus and in diphtheria, because, besides the very great difference in the duration of the period of incubation of these maladies compared to rabies, there exist considerable differences in the methods with which in each of them the fundamental immunity is obtained and the strengthened injections are practised. In rabies, in fact, in order to obtain the strength of the acquired immunity, instead of a single injection, and with a cultivation made artificially, we make a series of injections with a virus cultivated by natural means much stronger and weakened according to a descending scale; therefore, wishing to apply to this malady what has already been established for another, it cannot be said *a priori* whether the computation of the days which should pass between the vaccination and the moment of taking the blood ought to be made from the beginning, from the middle, or from the end of the strengthened injections. Nor at first can it be judged what influence the heterogeneous injected materials may have upon the protective value of the serum. The researches pursued with this idea have fully confirmed what we had previously established—viz., that the most opportune time for practising bloodletting and collecting the serum of animals vaccinated against rabies is the twenty-fifth day starting from the last injection of the series of revaccinations. Besides, we have been able to determine that whenever the strengthened injections are made according to the proper rules and are perfectly successful the accumulation of the protective material in the blood has in the vaccinations against rabies a period sufficiently long, by which, not looking for the highest terms of the power of the serum, it would seem that little or no difference exists in the protective value of the same serum taken at various times after the vaccinating injections. Thus, taking the blood from the same animal ten and twenty-five days after a revaccination—the first time in small quantity (so as not to influence by a too abundant subtraction of antitoxin from the blood the results which would be obtained at the second taking)—we succeeded equally with 5 c.cm. of serum injected under the skin in saving all the rabbits infected twenty-four hours afterwards with the canine virus; but, contrariwise, while with the serum of the blood collected at the twenty-fifth day we also obtained the same effects with a proportion of serum to the weight of the body of 1 to 25,000, with the blood collected on the tenth day we arrived scarcely at the proportional quantity of serum last indicated only saving half the animals infected, as may be clearly seen from comparing the two parts of Table VII.

5. *The mode of preservation of the antirabic serum which for facility, economy, and safety best corresponds to clinical needs.*—It is certainly very important to find the method of preserving the antirabic serum against any contamination and in a form which renders its despatch easy and in which the serum loses nothing of its protective power. With regard to this it is found, as with tetanus,[12] that the desired end is compassed perfectly when the serum is first reduced in volume by distillation at 38° C. *in vacuo*, whereupon it is dried *in vacuo* over sulphuric acid. Numerous comparative experiments have demonstrated, in the case of rabies, that we obtain upon animals the same result when we make use of fresh serum as when a corresponding quantity of dried serum is injected, even if this has been preserved for some months, so that now in our experiments we adopt either serum indifferently. In the sheep the proportion of dried serum to the liquid serum of recent cultivation is about one-third of the original weight, since 7 and 80 gr. of antitoxin correspond to 100 c.cm. of serum. This dried serum has the appearance of red and yellow scales which dissolve easily in ten times their own weight of water; preserved in a coloured phial and protected from the damp by a perfect-fitting stopper, it keeps its protective properties unaltered for a very long time. It therefore lends itself very well to the needs of practice.

(To be continued.)

[11] Tizzoni and Centanni: Antirabic Serum at the Highest Power, &c., loc. cit.

[12] Tizzoni and Centanni: Fresh Experiments on the Vaccination of the Horse against Tetanus. Gazetta degli Ospedali, No. 47, 1894.

SUBMAXILLARY EXCISION OF HALF THE TONGUE.

BY W. G. SPENCER, M.S., F.R.C.S. ENG.,
SURGEON TO OUT-PATIENTS AND TO THE THROAT DEPARTMENT, WESTMINSTER HOSPITAL.

OPERATIONS on the tongue and floor of the mouth for epithelioma have become so much less dangerous that the immediate mortality therefrom has almost vanished—at least, for well-selected cases. Unfortunately, the final result as regards cure is yet far from successful, and ulcers of any considerable size are too often followed after removal by malignant disease of the submaxillary lymphatic glands. The method often adopted at the present time is to remove half the tongue by scissors and then to shell out through a small incision any submaxillary lymph glands which may be felt to be enlarged. There are thus left the lymphatics passing from the affected tongue across the floor of the mouth, through, or behind, the mylo-hyoid muscle, and the remainder of the submaxillary lymph glands which are not at the time sufficiently big to be felt. But glands even of the size of a haricot bean may not be felt before the operation, for they lie between two layers of fascia or amongst the lobules of the submaxillary salivary gland, and are covered by a more or less thick layer of subcutaneous fat. The only sign of enlarged glands before operation may be slight tenderness as compared with the sound side, yet after removal all the submaxillary lymph glands be found increased in size. Formerly, surgeons were apt to ascribe such tenderness to simple inflammation, but few are likely now to hold such a view in the light gained by the more thorough microscopic examination of such glands and the careful observation for some time afterwards of cases wherein such glands have been left behind. Surgeons now aim to take away the whole diseased area in a more complete way than would have been wise in bygone

days, when the immediate mortality after the operation was so great. The typical operation, whether it include the glands below the jaw, those in the axilla or in the groin, is the same—viz., the excision of the cancer, together with a wide margin of apparently healthy tissue, and of the lymphatics running from the area removed as well as the glands to which the lymphatics go, all in one piece, so that none of the disease shall be overlooked. The operation adopted is briefly as follows:—1. Anæsthetic: nitrous-oxide gas and ether; later chloroform. 2. Skin incision: (*a*) vertically from the point of the chin to the hyoid bone; (*b*) horizontally along the hyoid bone to the great cornu; and (*c*) obliquely upwards and backwards to the outer border of the sterno-mastoid opposite the angle of the jaw. This skin flap is turned up on to the face. 3. Division of the superficial and deep fascia with the platysma along the line of the skin incision. These structures, containing the submaxillary, lymph, and salivary glands, are then raised from the muscles and hooked upwards. 4. Ligature of the lingual and facial arteries. The vessels are cut across after being tied on the proximal side, and the distal end clamped. The lingual is exposed in the digastric triangle by separating the fibres of the hyoglossus with forceps to avoid pricking the lingual vein, which swells up in front of the artery of the living subject. Moreover, there is thus no possibility of wounding the pharynx should the patient make a sudden expiration. By hooking up the submaxillary gland the facial artery is straightened out, and is, therefore, easily ligatured in front of the posterior belly of the digastricus. 5. Division of the fascia by cutting along the lower border of the jaw, the distal end of the facial artery and vein on the face both needing a ligature. 6. Separation from the jaw of the genio-hyoid and mylo-hyoid muscles along with the mucous membrane of the floor of the mouth, from the middle line to the angle, by keeping the edge of the knife applied to the inner surface of the bone. 7. Removal of the half of the tongue with the floor of the mouth and glands through the submaxillary opening. The tongue is first split down the middle, and by means of a ligature through its tip drawn out well into the submaxillary triangle, then cut away from the hyoid bone along with part of the anterior pillar of the fauces. 8. The wound is covered with iodoform filled with strips of gauze, the ends of which hang out of the mouth, and the skin flap fixed in its former position by a continuous suture.

The chief point of the operation is the complete removal of the submaxillary and sublingual glands along with the lymphatics running to them from the tongue. Experience has shown how impossible it is to detect by digital examination early disease in glands. The microscope will frequently bring to light a small focus of disease in glands apparently unaltered. There is no need to divide the jaw unless it be actually invaded by the disease; a preliminary tracheotomy is not wanted, for, the arterial supply having been controlled, there is only venous oozing to contend with when the tongue itself is being divided. The objection raised as to the greater danger in opening a free communication between the mouth and neck is now unimportant, since the treatment after operation by iodoform crystals has been introduced as well as Whitehead's plan of urging the patient to get up as soon after twenty-four hours as possible. There is sufficient room also to remove the soft palate or tonsil if necessary. The kind of case in which this operation must fail is illustrated by the following one, which is also worthy of note by reason of the sex and age of the patient. A governess aged twenty-three, to look at the picture of good health, had an ulcer opposite the lower molar teeth. In two and a half months from the first occurrence of the ulcer an epithelioma had involved half of the tongue throughout its length, the floor of the mouth, the adjacent portion of the soft palate, and the surface of the tonsil. No enlarged glands could be felt, but after removal evidence of disease, mainly microscopic, was found. The site of the operation healed soundly and the patient regained clear speech, only to fall a prey to recurrence deep in the neck from which she died within ten months of the beginning of the ulcer. Her father had died eight years before from cancer of the throat (? larynx) after suffering for two years.

Brook-street, W.

MR. JAMES WIGG, L.R.C.P. Lond., has been elected a member of the St. Pancras Vestry for Ward 3 at a by-election.

LABORATORY NOTES ON THE BACTERIOLOGY OF DIPHTHERIA.

BY E. B. SHUTTLEWORTH, PHAR. D., F.C.S.,
BACTERIOLOGIST TO THE BOARD OF HEALTH, TORONTO, AND PROFESSOR OF BACTERIOLOGY, TRINITY MEDICAL COLLEGE, TORONTO.

A CONSIDERABLE amount of bacteriological work relating to antitoxin experiments was performed in the laboratory of the Toronto Board of Health during the closing months of 1894, but it was not until Feb. 1st last that the examination of diphtheria exudates was carried on in a regular and systematic manner. The importance of such investigations was clearly demonstrated by the results obtained in the hospitals for infectious diseases in Berlin and Paris and by the extensive researches of the Health Department of New York. It was therefore determined by Dr. Sheard, health officer of Toronto, that similar work should be undertaken in connexion with the isolation hospital, an institution entirely under city control in which the greater number of patients are the victims of diphtheria. The objects sought were: (1) to confirm clinical diagnosis and determine doubtful cases; (2) to distinguish between cases of true diphtheria and those caused by cocci, so that patients affected by the latter could be isolated and more speedily discharged; (3) to demonstrate the absence of the specific bacillus from the respiratory passages of convalescents from true diphtheria, with a view of shortening the usual twenty-eight days' detention in the hospital; (4) to assist in the diagnosis of outside cases, thus saving isolation and disinfection, with their attendant inconvenience and expense; and (5) to afford a means of contributing towards a knowledge of the disease. The purpose of this paper is that of presenting a brief account of the work performed and of summarising such facts as seem likely to be interesting or useful. To this end the same general plan has been followed as that adopted in the joint report of Dr. Park and Dr. Beebe of the bacteriological laboratory of the New York Health Department, and presented to Dr. Herman M. Biggs, chief pathologist.[1] Results may in this way be more advantageously compared than with those of Berlin and Paris, where a type of disease of greater severity than that in either New York or Toronto seems to prevail.

From Feb. 1st to July 1st there were admitted to the isolation hospital 188 patients said to be suffering from diphtheria. The records also embrace, for the same time, sixty private cases in which the exudates were submitted by city physicians. The details of these 248 cases are complete so far as the examinations are concerned and are included in the statements made as to organisms present, but as these outside cases could not be readily traced no further particulars were sought. With regard to the hospital cases it may be assumed that the clinical diagnosis was sufficiently conclusive to warrant the admission of the patients, and it may also be noticed that, as most of them belonged to the poorer classes, they cannot be considered as being amongst the most hopeful. In other words, the hospital clientage may be taken as consisting of apparently pronounced cases, with an unfavourable history, and any statistics gathered from such records will certainly not lead to an under-estimate of the diseases commonly classed as diphtheria.

Collection of the exudate.—The infected material is collected by the attending physician by passing a swab firmly over any patches of visible exudate on the tonsils or the pharynx, and is at once sent for examination to the laboratory of the Health Department. This method is deemed preferable to that commonly practised, in which a culture is at once made by the physician, as it affords an opportunity for the bacteriologist to make an examination of the exudate as well as the culture, thus forming a check of some value and also often enabling a reliable diagnosis to be at once pronounced. Another advantage is that the condition of the culture medium can be guaranteed and the manipulation be in more experienced hands. The swabs are prepared by cutting No. 15 steel wire into six-inch lengths, roughening one end by a few strokes of a chisel-edged hammer, and firmly winding on a little ordinary cotton-wool so as to make an application of about a quarter of an inch in diameter. The other end of the wire is then passed through a tapered cork of

[1] New York Medical Record, vol. xlvi., Nos. 11 and 13.

the best quality, which fits into the non-lipped mouth of a stout, well-annealed test-tube of 15 mm. internal diameter by 100 mm. in depth (say, five-eighths of an inch by four inches). The object should be that of preventing the infected material from soaking into the swab, and preference is therefore given to ordinary cotton-wool rather than the absorbent kind hitherto recommended. A cork will also be found an improvement on the usual plug of cotton-wool, and is practically a sufficient protection from extraneous germs. The tubes containing the swab are sterilised by one and a half hours' exposure to a dry heat of 150° C. The swabs are supplied free to any physician requiring them.

Culture.—Experiments have been made with various media; but Löffler's blood-serum mixture, prepared by the quick method, has been found to best answer the requirements, although, when recently made and bearing water of condensation, it does not appear to give such good differential staining as when dry or older. The white and yelk of an egg, with one-third its bulk of bouillon containing 1 per cent. of glucose, may on occasion be used, as also glycerine agar, which is, however, slower than serum, though yielding much better microscopic preparations. Dr. Park and Dr. Beebe claim that glycerine agar is not so reliable for diagnostic purposes as serum, and I have noticed that the growth of Löffler's bacillus on this medium is less luxuriant, while the cocci appear to develop more rapidly and vigorously. In making a culture the infected swab should be lightly but firmly passed over the surface of the slanted serum, but not with such force as to abrade it. The infected tubes are then kept in an incubator at 35° to 37° C. for, say, twelve hours, when the growth will be easily recognised. As a matter of fact, the cultures are set one day and examined next morning. Cultural characteristics are of value as affording collateral evidence of the presence of the specific organism, and on transparent media the colonies are more or less easily recognised. It is, however, on morphological characters and peculiarities of staining that reliance must be placed.

Staining.—A smear from a swab is made directly on a slide and is dried, fixed, and stained with Löffler's blue. In making a preparation from a culture a small drop of water is put on a slide by means of a platinum loop, and a portion representing the entire growth on the surface of the serum is removed by a platinum needle and evenly distributed in the water, and is then dried, fixed, and stained. A drop of cedar oil is put on the slide, and the examination made by a one-twelfth oil immersion lens. Staining directly on the slide, as in the recognition of bacillus tuberculosis, is quicker and handier than using a cover glass, and, with proper skill in using the objective, is practically safe.

Characteristics of the diphtheria bacillus.—It will be unnecessary to repeat the well-known descriptions of this organism, and I would only emphasise its great liability to variation in form and size. This tendency to "sport" is sure to puzzle the inexperienced observer, though, when understood, it becomes diagnostic. The organisms found in the exudate are often presented as diplobacilli, which stain more or less uniformly and at most show polar darkening, while in other and much rarer cases they are exceedingly characteristic, resembling those grown on serum and possessing strongly marked interruptions. The cause of this variation may possibly be found in the condition as to reaction, or composition of the mucous membrane or secretion, in the throats of different patients. This seems likely, as under artificial cultivation the character of the medium greatly influences the appearance of the bacillus. I may say that I have found these characteristic specimens most frequently in the exudates from adults. The variations shown in the bacilli of cultures are not, however, to be wholly accounted for by the character of the medium or by the temperature or staining manipulations. Cultures of different exudates grown together under conditions precisely similar, and stained in like manner, often show very different results. In some the bacilli may be uniform in shape, size, arrangement, and diagrammatic staining, while other specimens exhibit wide differences in all respects, presenting extremely long rods with wide interruptions, or clavate, fusiform, or even pyriform organisms of the most bizarre description. It is thought that these are involution forms, or, according to Dr. Klein, that they represent a relationship to a mycelial fungus. The variations are very interesting and invite further study.

Relation between the length of the bacillus and its virulence.—The results of Dr. Park and Dr. Beebe are not in accord with those of some others who hold that the longest bacilli are the most virulent. The observations of the above-named writers show that the greatest mortality occurred in those instances in which the rods were shorter than the average, while there was a diminished death-rate with the long forms and a still lower rate with the evenly stained short forms with badly marked characters. Ample opportunity was afforded by the records of the isolation hospital for learning the clinical history of the cases there, and from a comparison of such data with those obtained from the bacteriological examination the conclusion to be formed is in accord with that arrived at in New York—viz., that the bacilli afford little evidence on which to base a prognosis, but if anything the longer rods produce less fatal results than those of average dimensions.

Persistence of the bacilli in the throats of infants.—Some observations have been made on this point. The shortest period for the disappearance of the bacilli after the patient's admission to hospital was five days, and the longest forty-two days. A somewhat interesting case was that of patient No. 1820, an adult, in which by the thirteenth day the bacilli had entirely disappeared and recovery was progressing rapidly On the thirteenth day after this, and within one day of the termination of the stipulated period of convalescence, reinfection occurred, as evidenced by the clinical signs of the disease and confirmed by the bacteriological test. By the thirteenth day the bacilli had again disappeared and the discharge of the patient followed shortly afterwards. This was a clear case of reinfection, and, taken in connexion with the ascertained variability in the persistence of the bacilli, shows conclusively that a definite time limit cannot be placed to the period of convalescence, and that though a detention of fourteen days after the disappearance of the exudate is a fairly well chosen term it is sometimes too long for the safety of the patient and often not long enough to prevent infection being carried by those who are discharged. Dr. Park and Dr. Beebe think that the isolation of patients should continue until cultures prove the absence of bacilli, and when such examinations cannot be made at least three weeks should elapse after the disappearance of the membrane. During the past two months, as confidence has been established in bacteriological results, considerable advantage has been taken of such tests in governing the discharge of patients, and in no instance has there been any reason to doubt the correctness of the conclusions.

Diagnosis by examination of the exudate.—The question is often asked whether by a microscopical examination of a smear of the exudate it is possible to make a diagnosis. In many cases a reliable conclusion can thus be formed, but in others it is quite impossible. Failure may arise from the fact that the bacilli are few while other organisms are very numerous, and, as I have before stated, the characters of the Löffler bacillus are in the natural medium often very difficult of recognition. On looking over the records of the last 100 exudates examined I find that the bacillus was noted as being undoubtedly present 36 times, and as being probably present 39 times. In the other cases the organism was either not present or not recognisable. According to this it is possible to make from the exudate a sure diagnosis in at least one-third of the cases, and to form a fairly correct idea as to the nature of about three-quarters. Negative results have not any diagnostic value, as failure to detect the bacilli does not necessarily prove their absence.

Number of species of bacteria found in cultures.—Considering the apparently fertile source it is quite remarkable that so few species are found in serum cultures. Miller isolated more than 100 species from the juices and deposits of the mouth, and it does not seem unlikely that a large proportion of these might reach the tonsils or pharynx. The greater number of such bacteria are derived from food or air, and the mouth organisms proper were found by Miller to be strictly parasitic and not capable of cultivation on artificial media. This may possibly account for the small number of species represented by cultures from the throats of diphtheria patients, and the temperature at which cultures are grown no doubt exercises an inhibitory influence on many species. I have found that the range is confined to about twenty organisms, and the occurrence of some of these is quite rare. The species include Löffler's bacillus and pseudo-form, the pyogenic staphylococci and streptococci, micrococcus tetragonus, white and pink yeasts, the diplococci of Fränkel and Friedlander, Pfeiffer's bacillus, streptococcus articulorum, bacillus mesentericus vulgatus, and other spore-bearing organisms.

Character of pathogenic organisms found.—The following table shows the general character of the organisms present

in 188 hospital cases and 60 in private practice. The results are calculated in the nearest whole percentages:—

—	Hospital cases.	Private cases.
	Per cent.	Per cent.
Bacillus diphtheriæ	36	21
,, and streptococci ...	11	18
,, and staphylococci	10	6
,, with streptococci and staphylococci...	19	15
Streptococci only	4	16
Staphylococci only (other than micrococcus tetragonus)	6	7
Streptococci and staphylococci ...	12	14
Other organisms	2	2
Löffler's bacillus present	75·5	61·7
,, ,, absent	24·5	38·3

It is commonly supposed that Löffler's bacillus is much more generally associated with cocci than is indicated by this table, but I can only give the facts as observed. It may, however, be explained that there is a bare possibility that the cases of combination are understated on account of the somewhat slower growth of cocci on serum. Observations of the cultures were in all cases made after twenty-four hours' development, except in the case of those set on Saturdays, when twice this time elapsed. Cocci were found to grow in the shorter period, and there is no definite reason to conclude that a longer time in the incubator would have produced a different result. The fact that nearly one-quarter of the cases admitted to the isolation hospital as diphtheria were really not so is a most important one, and points strongly to the necessity for "suspect" wards in institutions of this character. The isolation should be perfect, and all patients should be detained in such quarantine until the results of a bacteriological examination are known. This seldom requires more than twenty-four hours, and by the exudate may sometimes be decided in a few minutes. In the 5611 cultures made in New York from May, 1893, to May, 1894, and representing hospital, dispensary, and private cases, the specific bacillus was found to be absent in 27 per cent of the cases. This agrees fairly well with the results obtained here.

Occurrence of staphylococcus pyogenes aureus.—All cultures were laid aside for fourteen days after microscopical examination so that the golden staphylococcus might reveal itself by its chromogenic character. It was found in 27 out of 188 cases, or about 14 per cent. It is significant that it was present in nearly 19 per cent. of the fatal cases.

Occurrence of micrococcus tetragonus.—The frequency of this organism in diphtheria exudates and cultures calls for special remark. As judged by morphological characters I have found it to be present either in the exudate or cultures in 91 per cent. of the hospital cases examined. This is, I think, a greater proportion than is observed in health; but whether the fact is of any pathological importance I am not in a position to say.

Susceptibility as influenced by age and sex.—The following table affords some data for arriving at conclusions on these points, but it is to be regretted that cases of true and false diphtheria are not separately enumerated. The percentages apply to the ages of hospital patients only.

	Per cent.
7 years and under	50
Between 7 and 14 years	21
,, 14 and 21 years	14
,, 21 and 28 years	10
,, 28 and 51 years	5

The tables of Dr. Park and Dr. Beebe cannot be compared, item by item, with this, but it may, however, be concluded that young children are here much less liable to the disease while adults are more susceptible than in New York. The proportion of females to males was 55 and 44 per cent. respectively, figures which approximate very closely to those applying to New York.

Mortality.—The type of disease prevalent in Toronto appears to be, relatively, of an average character. This is shown by the observed death-rates in various American cities as given in the last report of the Toronto Board of Health. A few of these figures may be reproduced: Cleveland, Ohio, 63·5 per cent.; Des Moines, Iowa, 44·8 per cent.; Brooklyn, N.Y., 36·9 per cent.; Rochester, N.Y., 33·3 per cent.; Boston, Mass., 32·3 per cent.; New York, N.Y., 30·6 per cent.; Philadelphia, Pa., 29·0 per cent.; Detroit, Mich., 28·6 per cent.; Toronto, Ont., 1894, 27·9 per cent.; Toronto, Ont., 1892-94, 22·1 per cent.; Duluth, Minn., 19·0 per cent.; Harrisburg, Pa., 13·0 per cent.; and Toledo, O., 11·7 per cent. General health returns cannot be accepted as being as accurate as those of hospitals, where the facilities for obtaining statistics are complete and under perfect control. It will, therefore, be better to class the death-rate of the isolation hospital with other institutions of the same class, of which a few records are at hand:—

	Per cent.
Sick Children's Hospital, Paris, average of five years	51·70
English hospitals, quoted by Dr. Washbourn, Dr. Goodall, and Mr. Card, average	38·90
Trousseau Hospital, Paris	32·00
Willard Parker Hospital, New York, average of four years	23·77
Willard Parker Hospital, New York, 1894 ...	27·00
Isolation Hospital, Toronto, 1893	19·32
,, ,, ,, 1894	14·05
,, ,, ,, February to June inclusive, 1895	18·08

In the Toronto returns there have not been any deductions for cases which were in a moribund condition when admitted, but every death occurring in the institution has been included. The low rate is highly creditable to Dr. Tweedie, the physician in charge, but, nevertheless, I think the conclusion may be formed that the bacillus is less virulent or the subjects more resistant in Toronto than in many other cities.

Organisms present in fatal cases.—Of the 34 deaths which took place during the last five months there were 33 examinations of exudates, as in one instance the patient died a few minutes after admission and a swab was not taken. In another case, that of an infant twelve months old in a moribund condition from membranous croup, the swab was unsatisfactory. The records of the 32 remaining cases are as follows:—

	Per cent.
Löffler's bacillus only	37·5
,, ,, with streptococci	25·0
,, ,, ,, staphylococci	18·7
,, ,, ,, streptococci and staphylococci	18·7

The staphylococci were in all cases staphylococci pyogenes aurei. No fatal results took place when only cocci were present.

Sex and age in fatal cases.—The proportion of males and females was respectively 44 and 56 per cent., being precisely identical with the ratio of affected cases. Age is represented by the following percentages:—

2nd year	26 per cent.	7th year	15 per cent.
3rd ,, ...	12 ,, ,,	8th ,, ...	3 ,, ,,
4th ,, ...	17 ,, ,,	10th ,, ...	3 ,, ,,
5th ,, ...	15 ,, ,,	13th ,, ...	3 ,, ,,
6th ,, ...	6 ,, ,,		

It will thus be seen that the mortality was 91 per cent. during the first seven years, while the number of patients under that age was 50 per cent. Of the 29 per cent. of patients over fourteen years of age not a single death occurred. Sixty-seven per cent. of the deaths took place within five days after admission to hospital, and 88 per cent. within eight days. The longest period from admission to death was fourteen days.

Relation between organisms present and severity of the disease.—I offer with great hesitancy any remarks on this subject, as some of the results indicated by my investigations are as surprising to me as they doubtless will be to others. I have, however, no reason to question the care with which the bacteriological observations were made, though, in regard to the records of the character of the disease, it may be explained that such were not specially kept for this purpose, but were partly obtained during conversations with the medical superintendent and partly from his notes of cases. Further experience and more perfect records may throw

additional light on this subject, but in the meantime I venture to submit what I have up to the present observed. In the following table the cases have been classified as mild, severe, very severe, and fatal, and the proportion with reference to each organism or combination is given in round percentages:—

—	Mild.	Severe.	Very severe.	Fatal.
Bacillus diphtheriæ	46·6	11·2	22·5	19·3
,, and streptococci ...	32·1	17·8	21·4	28·5
,, and staphylococci...	27·2	18·1	22·7	31·8
,, with streptococci and staphylococci	54·3	11·4	20·0	14·2
Staphylococci only	97·3	2·7	0·0	0·0
Streptococci only	100·0	0·0	0·0	0·0
Staphylococci and streptococci ...	100·0	0·0	0·0	0·0

The general belief that the most fatal cases result from the association of Löffler's bacillus with staphylococci or with streptococci is confirmed by the above figures, and the former combination is the most serious. It is, however, extraordinary that when both cocci are present with the Löffler bacillus the death-rate is apparently reduced by one-half. This would indicate an antagonism between the combined cocci and the bacilli—a supposition which I do not care to urge until further evidence is obtained, and this I shall take particular pains to procure. There are other interesting deductions which might be drawn from the above statistics, but I shall not further trespass on patience which must be already overtaxed.

Toronto.

A CLINICAL STUDY OF THE ANTI-SUDORIFIC PROPERTIES OF PICROTOXINE.[1]

BY DR. M. SEMMOLA,

PROFESSOR OF CLINICAL THERAPEUTICS OF THE ROYAL UNIVERSITY OF NAPLES AND SENATOR OF THE KINGDOM OF ITALY.

THAT most important function of the skin, perspiration, is, like all other vital functions, regulated by various factors. Many different causes may provoke its augmentation or diminution, such as the surrounding temperature, excess of water in the blood, extreme activity of the heart, dilatation of the peripheral vascular system, some medicinal substances, several pathological states, and, finally, the influence of special secreting nerves. Eliminating accidental causes, those which remain to preside over the sudoriparous secretions are the bloodvessels and the system of secreting nerves, which are almost always closely dependent on each other; in fact, a vaso-dilatation often succeeds an excitation of the secreting nerves. However, perspiration, which often takes place when the skin is pale, like that due to strong moral excitement and the cold sweat of the death agony, proves that the secreting fibres can act even when the constricting fibres of the vascular system are excited. That there are special sudoriparous nerves independent of the vaso-motor system has been demonstrated by the famous experiments of Goltz, Kendall, Luchsinger, and Ostruomon; indeed, the secretion of perspiration has even been verified in the secreting nerves of a limb just amputated. Nor are secreting nerves the only known cause, for the presence of sudorific centres has been discovered. Thus in the cat a lumbar centre has been shown to influence the posterior limbs; a cerebral centre the anterior ones (Vulpian, Luchsinger, Nawrocki, and Ostruomon); and a bulbar one, which influences all four limbs (Marmé and Adamkewiez) and may in a cat cause perspiration of these limbs to continue up to three-quarters of an hour after its death. At other times perspiration is in direct proportion to the quantity of blood distributed on the surface of the skin, as has been shown by the celebrated experiment of Dupuy, who, after cutting the cervical sympathetic nerve of a horse, saw the corresponding half of the neck break out into a profuse sweat; and also by that of Nitzelnadel, who galvanised the cervical sympathetic nerve of a man and observed the consequent arrest of perspiration.

The cause of the increase or diminution of sudorific secretions being so various, it is clear that there may also be differences in the methods by which several substances influence this function. Whether they act directly on the bloodvessels or the excitability of the nervous sudorific system, or simultaneously on both these factors, we can always obtain by their means an increase or diminution of perspiration. We have substances in our Pharmacopœia which act on the cutaneous functions in utterly different manners and by various processes. Thus there are several agents more or less efficacious in producing diaphoresis; they vary in their mode of action because their influence is variously developed; they may act by increasing the mass of blood, as in the case of copious draughts of hot water, or by exciting the action of the heart, as in abundant potions of warm spirituous liquors; they may, again, act by stimulating the sudorific centre, as in muscarine, physostigmine, nicctine, or acetate of ammonia, or the whole of the secreting nervous apparatus, both central and peripheral, may be stimulated as by pilocarpine; and, lastly, the vaso-motor organs may be paralysed, as by antimonial wine, ipecacuanha, &c., and a hyper-functionability of the apparatus produced. On the other hand, we possess in therapeutics many substances that by means of entirely different actions have antisudorific properties. Thus hot and cold water, *douches écossaises*, &c., by stimulating the vascular system, tend to re-establish the tone of the peripheral vessels and so diminish the secretion of sweat. Tannic and gallic acids would produce an irritant action on the vaso-motor centre (Fikentscher) and a peripheral action on the vessels and sudoriparous glands, thus diminishing transpiration and evaporation. Acetate of lead has a styptic action; white agaricus, agaricine, and agaric acid (Haen, Barbut, Piermy, Tomg, Seifert, Lauchmann, Hoffmeister, and others) possess a paralysing effect on the peripheral apparatus of the sudoral secretion. Camphor and camphoric acid (Leu, Dresman, and Combenale) act as general stimulants to the nervous system; atropine paralyses the secreting nerves; and, lastly, picrotoxine acts by first exciting the vaso-motor bulbar centre and then consecutively constricting the vessels (Planat, Bokai, and others); all these drugs diminish or more rarely arrest the secretions. The physician, therefore, possesses several antisudorific remedies; but as they differ in their actions so should they have different therapeutic indications, for increase of perspiration may arise from various causes which may have distinctly different actions. Before, therefore, we institute an antisudorific treatment it is necessary to form a clear conception of the pathogeny of the disturbance in the secretions; and, according to whether the nervous sudoral system, the vaso-motor system, or the smooth fibres of the bloodvessels, &c., enter into play, we must choose that pharmaceutical substance which, when absorbed, can best modify and counteract the disturbances which in that especial patient have caused the diaphoresis. In other terms, when treating an ephidrosis due to excitement of the sudoriparous nervous system we must have recourse to the medicines, like agaricine, atropine, &c., which have an inhibitory effect, thus compensating the increase of function; on the contrary, when we believe the ephidrosis is caused by paralysis of the vaso-motor centre we should administer exciting remedies such as picrotoxine; and, lastly, if there is a diminution of vascular tone from peripheral disturbances we then use hydropathy, which has such a marked action on the parietes of the bloodvessels. Guided by these ideas we may attain truly splendid results in cases where many remedies have been uselessly experimented with without rational therapeutic indication, which should especially belong to a scientific practice. I will briefly report a clinical history of the greatest importance in the nature of functional alteration, and the rational treatment followed, which produced complete recovery.

The patient was a woman aged forty-three years living at home. She had no morbid history of note, either hereditary or acquired. In December, 1893, she had influenza, with high and persistent fever, headache, slight cough, and still slighter expectoration. These morbid conditions having

[1] A paper read at the Institution of Clinical Therapeutics of the Royal University of Naples, and edited by Dr. Carlo Gioffredi, assistant at that Institution.

ceased, she continued to remain in bed on account of great general prostration. Her appetite and digestion were, however, well preserved. During convalescence, which is always long after influenza, she gradually began to show a great tendency to perspire, doing so profusely without the smallest muscular effort, even though it was in the middle of winter. This tendency constantly increased, until streams of perspiration poured off the patient, when she was only dressed and covered as lightly as if it were summer time. Together with this there were frequent peripheral vaso-motor disturbances, chiefly shown by livid red patches more or less extended and persistent. The skin was cool on account of the constant cutaneous evaporation. On examination of the nervous system no alteration worthy of note presented itself either functionally or subjectively. On careful examination of the heart an increase of the transverse diameter was noted, and a systolic murmur at the apex, with accentuation of the second sound over the pulmonary area. The other organs were normal. There was anæmia caused by the great drain on the system, and the general state of the patient was very low. Several antisudorific remedies had been tried to counteract this morbid process—atropine, agaricine, camphor, camphoric acid, &c.—but all had proved inefficacious. If we except the insufficiency of the mitral valves, the most important clinical points in the history were the preceding influenza, ephidrosis, cutaneous patches, and the prostration. The onset of perspiration had occurred immediately after a serious attack of influenza with great weakness, and had progressively developed, notwithstanding that the other phenomena of the disease had entirely disappeared. I considered that we were treating a perspiration due to paresis, more especially caused by some of the many toxines which are often superadded to influenza, and which in this case exerted their action on the sudoriparous centre and the vaso-motor centre of the bulb—a frequent seat of action of these toxines, as has already been demonstrated by the examination of the urine of patients suffering from it.[2] The livid red marks on the skin were certainly due to vaso-motor paresis, and so confirmed the diagnosis. And this was why atropine had proved useless; it had no marked action on the peripheral bloodvessels, which were the actual cause of the perspiration. Agaricine had been equally inefficacious, as it acts in much the same way as atropine; indeed, we may add that this drug, having, according to Hoffmeister, a peripheral action on the vaso-motor centre, would certainly have aggravated in this case the pathogenic cause of the ephidrosis. Starting, then, from this conclusion—i.e., deeming that the perspiration in this patient must be referred to exhaustion of the vascular tone from paresis of the bulbar vaso-motor centre—I prescribed picrotoxine as a remedy potent to stimulate that centre, which was weakened by a special toxine—in fact, a treatment founded on elective antagonism. The results obtained were in complete accordance with my predictions and fully confirmed the theory I had formed of the pathogeny of this singular functional disturbance. Scarcely three days after the picrotoxine had been given (in doses of half a milligramme twice a day) the sweats gradually diminished and entirely disappeared on the eighth day of treatment, while hitherto they had been obstinate against all other remedies. The effects of paralysis of the vaso motor centre also entirely ceased with the perspiration, and by degrees the patient lost all sense of general weakness, which was the effect of the drain made on the system by profuse sweats, and returned to complete health.

The rational therapeutic indications which ought to form the basis of modern clinical study have in this case a marked confirmation. Antisudorific therapeutics, like all other therapeutics, should no longer be empirical. To varying pathogeny, to the different processes of production *en rapport* with the etiology, different indications should correspond. Now that physiology and pathology have shown us the various causes which may originate disturbance in the secretions of the sudoriparous glands, and pharmacology has enlightened us on the ways in which different substances act on the functions of the skin, every form of ephidrosis should no longer be treated indifferently with any chance antisudorific remedy, or by passing all such drugs in systematic review, as is frequently done in practice. It is needful to study the pathogenesis of the special morbid form under treatment, and thus choose that remedy which most reasonably suits the case.

[2] Transactions of the Académie de Médecine, 1891-92.

ON CURETTING THE UTERUS IN CASES OF PUERPERAL SEPTICÆMIA.

BY ALEXANDER DUKE, F.R.C.P., L.R.C.S. IREL.,
FORMERLY OBSTETRIC PHYSICIAN TO STEEVENS' HOSPITAL, DUBLIN; EX-ASSISTANT MASTER, ROTUNDA HOSPITAL, DUBLIN.

HAVING been present during the interesting discussion on the preventive treatment of puerperal fever (improperly so-called) at the last meeting of the British Medical Association (Obstetric Section), I was surprised that no allusion whatever was made to the treatment in such cases by curetting with blunt wire the cavity of the uterus. I am under the impression that I was the first to suggest this proceeding in the *British Medical Journal* in 1889 and in THE LANCET in 1890, and my name appears in this connexion in Neale's valuable "Digest" (Section 1595), third edition. This suggestion (which I have on several occasions acted on with satisfactory results, and which I still recommend in suitable cases) was commented on in a pamphlet published by Mr. E. Tenneson Collins (Cardiff) in 1894, entitled, "Pathological Objections to Curetting the Uterus in Puerperal Fever," in which he condemns this proceeding. On the title-page he states: "This paper was the outcome of a suggestion by Dr. Alexander Duke to curette the uterus in puerperal fever, followed by frequent irrigation, and he argues on a supposed analogy between the puerperal uterus and one affected by chronic endometritis." Mr. Collins's arguments, however, are not convincing to me, as he evidently supposes I use an instrument sharp enough to produce a breach of the surface, which I am most particular to avoid, by using only a blunt wire loop which I can attach to an irrigation tube if required. A French gynæcologist, M. Rapin (Lausanne), who has adopted this treatment, says:[1] "Everyone admits the utility in cases of retention of practising curettage as soon as symptoms of endometritis set in (fever, fetid lochia), in order to relieve the womb of the tissues which would form a favourable field for the development of microbes. This curettage is superior to cauterization or intra-uterine injections." I certainly consider that curetting with blunt wire (followed by drainage if necessary) is much less dangerous than intra-uterine injections alone, and for the reason that the micro-organisms which exist in these cases are found in far greater numbers near the vaginal outlet, and consequently would be much more likely to be carried upwards into the uterus by syringing than by the curette. I cannot, therefore, agree with the last sentence in Mr. Collins's pamphet: "It is unjustifiable to curette the uterus in puerperal fever." For my own part I much prefer to have recourse to curetting than to rely on the old treatment by drugs alone. I cannot help thinking that the antiseptic treatment in midwifery would be seldom required if more attention was paid to the aseptic, one of the most important plans being thorough flushing of the entire genital tract directly after labour. M. Rapin states that "After each delivery there remains a more or less large quantity of tissue in the uterus destined to undergo fatty degeneration and mortification. This is the decidua vera, and furnishes the greater part of the materials constituting the lochia." Is it not common sense, I ask, to remove this *débris* by flushing and so entirely take away this primary source of mischief, which later, if left (more especially by contact with a broken surface, such as a lacerated cervix or perineum), might perhaps inoculate the patients and set up puerperal septicæmia? Those who have never taken the trouble to thoroughly wash out the uterine cavity directly after labour (the time it can be best and most easily accomplished) can have little idea of the amount of *débris* which, if left behind, must take a considerable time to be expelled, and is certainly likely, to say the least, to prove a source of danger to the lying-in patient. In washing out the uterus I place the patient on the back and use either a syringe or douche. I employ plain water at a temperature of 110° F. which has been previously boiled; a little tincture of iodine may be added if preferred. I keep the left hand over the uterus while the fluid enters the cavity; the cervical canal is patulous, and therefore offers no resistance to the the introduction of the tube, there being sufficient room for the return current. This treatment is stimulating, cleansing,

[1] Medical Press and Circular, Aug. 28th, 1895.

and hæmostatic. In fact, there is everything to recommend the proceeding, and nothing (that I know of) to forbid its general adoption in all cases of labour and miscarriage.

Cheltenham.

ON GRANULAR KIDNEY FOLLOWING SCARLATINAL NEPHRITIS.

BY J. DIXON MANN, M.D. ST. AND., F.R.C.P. LOND.,
PHYSICIAN TO THE SALFORD ROYAL HOSPITAL.

THE absence of any essential distinction between the pathological processes concerned in the production of the different forms of Bright's disease is once more forcibly demonstrated by the following case. The patient was under my observation from the time she was attacked with nephritis until her death—a period of twenty-eight years.

In 1866 a girl aged fourteen years, previously healthy, had an attack of scarlet fever followed by nephritis and dropsy. There was nothing unusual in the course of the acute stage of the kidney disease; it subsided in a few weeks, and the patient regained her former state of health except that albumin continued to be present in the urine. From this time until her death, which took place in October, 1894, the urine was examined six or eight times every year, and albumin was found to be present on every occasion. For seven or eight years after the original attack the patient had occasional subacute attacks of nephritis, during which the urine became scanty, cloudy, and smoky, or red; at such times it contained numerous hyaline and fatty casts. In the intervals the urine was clear, of medium colour, and was free from excessive deposit, only an occasional cast being present. In some of these attacks there was considerable œdema of the hands and feet as well as of the face; at all other times no trace of œdema was present. These attacks usually followed exposure to cold; sometimes they occurred without any ascertainable cause. Each attack lasted about two or three weeks; they were entirely absent during the later period of the patient's illness. With the exception of occasional slight attacks of bronchial catarrh and of subacute rheumatism the general health was good. As a girl the patient was of a rosy complexion, and she retained the greater part of her facial colour throughout life; she never became anæmic. She was moderately stout and did not lose flesh until the last year of her life. At the age of twenty-eight she married, but had no children. From 1866 to 1880 the urine invariably contained a considerable amount of albumin, varying from 0·2 to 1 per cent. Somewhere about the year 1880 a change was noticed in the character and the quantity of the urine; in place of being of medium, or rather higher than medium, colour, and of moderate amount—thirty-four to forty-five ounces daily—it became of lower specific gravity, 1005 to 1010, paler in colour and more abundant, eventually reaching sixty to eighty ounces daily. The percentage of albumin also diminished, never exceeding 0·3 per cent. Casts were now very rarely, and blood-corpuscles never, found, the urine being almost free from deposit. From time to time observations were made as to the relative amounts of serum albumin and serum globulin in the urine. The proteid quotient was found to range within wide limits, being sometimes as high as 35, and at others as low as 0·8. The only striking feature observed was that the mean of the quotient tended to fall as the case advanced. The diminution was by no means regularly progressive, but, taking the whole series of observations, there was a decided drop during the last year; this was probably due to the altered constitution of the blood plasma induced by the disease. The daily excretion of urea did not materially deviate from the normal, although during the latter part of the patient's life the percentage of urea in a given volume of urine was diminished. A few weeks before death a considerable reduction in the amount daily excreted took place. The arterial tension gradually rose as time went on and the left ventricle became hypertrophied. In 1888 a mitral systolic murmur was observed. In September, 1894, the patient was troubled with persistent headache and sleeplessness, having previously been a heavy sleeper. Retinal hæmorrhages had been observed a short time before. She then became worse, and, after having been unconscious for several days, died from uræmia in October, 1894.

Post-mortem examination showed that the heart was considerably hypertrophied, especially the left ventricle. The liver was rather large and hyperæmic; it showed no cystic changes. The kidneys were very small; the left weighed two ounces, and the right a few grains under two ounces. They were dark-red in colour, without any white or yellow spots or patches. I am indebted to the kindness of my colleague, Professor Sheridan Delépine, for the following minute description of the kidneys: "Both the kidneys were small, measuring three inches and a half in length and one inch and three-quarters in width. Generally speaking they were normal in shape. The ureter and pelvis were of normal size. The capsule could not be stripped off without the substance of the cortex being torn and a number of cysts opened. The denuded surface of the cortex was very granular, cystic, and congested; some of the cysts projected much beyond the surface of the organ, the largest measuring about half an inch in diameter. This cyst contained a thickish, colloid-looking material. Microscopically examined, the organ presented all the appearances generally associated with the term "granular kidney." The capsule was thickened and rough on its external surface, indicating fibrous induration of the perinephral tissues. The interstitial tissue of the cortex was much increased, especially in the region of the pyramids of Ferrein, where the tissue was very transparent, finely fibrillated, and œdematous or myxœdematous looking; here and there it was moderately cellular, but there was no evidence of any recent small-celled infiltration. In the labyrinth the fibrous tissue was more scanty, denser-looking, and more coarsely fibrillated. In the medulla the increase of connective tissue was also very well marked and the œdematous look more striking; in many places the bloodvessels (capillaries) were separated from the collecting tubes by a layer of connective tissue thicker than the diameter of the tubules or of the bloodvessels themselves. The large arterial arches and many interlobular arteries were little altered, but were surrounded by a large amount of adventitious connective tissue. The smaller arteries, especially the terminal branches of the interlobular arteries immediately under the capsule, showed great thickening of their walls, most marked in the tunica intima, which in some exceptional cases was so thick as nearly to obliterate the lumen. The veins were generally dilated and also the capillaries. The Malpighian glomeruli and the capsule of Bowman were almost without exception scarcely distinguishable owing to fibrous transformation; those which remained distinct were in a state of fibro-hyaline degeneration; only a few Malpighian bodies appeared to be capable of performing any function. The convoluted tubules were mostly dilated, giving to the labyrinth an appearance resembling that of lung parenchyma. In many of the dilated tubules much atrophied epithelium could be recognised; in some the epithelium was lying loose in the lumen, in others the atrophied cells were pressed against the basement membrane by a mass of colloid matter in which cells more or less degenerated or vacuolated could be recognised. Some of the most dilated tubules formed cysts quite distinct to the naked eye, reaching in one instance a diameter of half an inch. A small proportion of convoluted tubules showed considerable atrophy. The straight tubules in the medullary rays were much atrophied, and here and there large cysts could be found in the labyrinth. In the papillary region of the pyramids of Malpighi some of the large collecting tubules were also much dilated."

Professor Delépine's report places this case amongst those in which, as a sequence of acute parenchymatous nephritis, a pathological condition is met with indistinguishable from that associated with the common type of granular kidney. The resemblance is complete; the tissues attacked and the character of the changes produced are identical. It is necessary to emphasise this lest the case should be regarded as one of arterio-sclerotic atrophy. In this form of contracted kidney the changes are almost entirely limited to the renal arteries and their branches. The arteries affected are gradually obliterated by thickening of the intima so that the glomeruli supplied by them are rendered functionless and, in consequence, atrophy along with the tubules derived from them; localised patches of cicatricial contraction of the cortex ensue, and these may be so numerous as to affect the entire cortex, producing naked-eye appearances very like those of the ordinary cirrhotic kidney. The distinction consists in the limitation of the morbid processes to the arteries; there is practically no increase of connective tissue, nor are Bowman's capsules thickened. In my

case the connective tissue throughout the cortex was greatly increased, Bowman's capsules were almost obliterated by fibrous invasion, and the larger and many of the interlobular arteries were but little altered, only the intima of their terminal branches being thickened. That the original disease which attacked the kidneys in the case under notice was of the acute parenchymatous type the clinical history clearly shows. That after a time it merged into chronic parenchymatous nephritis is equally obvious, and that the ultimate result was a condition absolutely indistinguishable from the ordinary granular kidney is demonstrated by Professor Delépine's report. The continuity of the morbid processes is established by the fact that albumin was always found to be present in the urine during the whole of the post-scarlatinal period of the patient's life, and also that the urine gradually approached in character the urine from an ordinary case of contracted kidney. During these twenty-eight years the kidneys were undergoing a series of changes, the character of which altered as time went on. The primary disease being scarlatinal nephritis would chiefly attack the glomeruli, but accompanying this there would also be more or less diffuse interstitial inflammation. The usual course is towards recovery or to comparatively early death. In the latter case the effect of the inflammatory processes on the vascular parenchyma is to produce more or less rapid and permanent loss of function, which ends matters forthwith; or, when the inflammation is less destructive, it leads to chronic changes which are also to a preponderating degree parenchymatous. Any changes that occur in the interstitial tissue are of negligible quantity, simply because, being of much slower type, they have not time to assert themselves before the more vital structures succumb. In my case, however, neither the original attack nor the subacute attacks which followed were of such virulence as to permanently damage the glomeruli beyond a point which was consistent with considerable duration of life. The necessary factor—time—consequently came into play; interstitial hyperplasia took place, with subsequent contraction of the overgrowth, together with the other indurative changes met with. It would thus appear that the condition found after death was simply the ultimate expression of one not unfrequently seen, in a modified form, in cases of chronic parenchymatous nephritis (large white kidney), which have survived rather longer than usual. In such cases some amount of fibrous hyperplasia of Bowman's capsules, along with cicatricial contraction of the cortex, which may reduce the kidney to less than the normal size, are by no means uncommon. The essential feature of the case was its singularly protracted course, which allowed the cirrhotic changes to reach a most advanced stage.

Manchester.

ON THE VALUE OF BICHROMATE OF POTASH IN CERTAIN AFFECTIONS OF THE STOMACH.

By J. B. BRADBURY, M.D. CANTAB., F.R.C.P. LOND.,
DOWNING PROFESSOR OF MEDICINE IN THE UNIVERSITY OF CAMBRIDGE; PHYSICIAN TO ADDENBROOKE'S HOSPITAL.

I BROUGHT back with me from the meeting of the British Medical Association at Clifton in August, 1894, a small box of soft gelatine capsules—prepared by Messrs. Duncan, Flockhart, and Co. of Edinburgh—each containing one-tenth of a grain of bichromate of potash. With the box were no directions, and for some months I could not make out in what diseases they were intended to be used. At the beginning of this year Professor Fraser of Edinburgh kindly sent me a paper which he read before the International Medical Congress at Rome [1] on the use of this drug in certain affections of the stomach, and I soon had the opportunity of testing its value in the case of my parlour-maid.

CASE 1.—In February she had an acute attack of gastralgia, which neither bismuth, morphia, nor iron, with the most careful dieting, would alleviate. She had had many similar attacks before and had always been relieved by a powder containing bismuth, opium, magnesia, and soda, or by iron. The pain was so severe that she was compelled to give up her work; it came on usually *directly* after eating, occasionally before, and was relieved by vomiting. She was slightly anæmic, but the bowels and catamenia were fairly regular. I determined to try the capsules, and after taking one three times a day for two or three days on an empty stomach she became much better and continued to improve. She has kept quite well ever since. Altogether she took two boxes of the capsules, each box containing about twelve.

CASE 2.—A man aged thirty, married, was admitted into Addenbrooke's Hospital, Cambridge, on April 3rd of this year suffering from attacks of vomiting after food. Generally the attacks came on many hours (from ten to twelve) after a meal, and most often occurred in the early morning. No pain was felt after food had been taken, but occasionally bright blood was found in the vomited matters. The Sunday before admission he brought up two tablespoonfuls of blood in the vomit. He had been troubled with these attacks of sickness for three years, and in consequence had been almost constantly an in- or out-patient at the hospital. Relief was obtained for a time, but the attacks quickly recurred. The patient was somewhat wasted, but there was no evidence of any other disease. He was of temperate habits. He was dieted on beef-tea and milk, and the day after admission was given one capsule of potassium bichromate (one-tenth of a grain) three times a day. He vomited on each occasion an hour after taking the first three capsules and once four days afterwards. On April 10th, one week after admission, he was allowed bread, on the 13th fish, and on the 17th pudding. On April 28th he left the hospital greatly improved in every respect, having gained weight and the power to take solid food.

CASE 3.—A woman aged forty-six was admitted to Addenbrooke's Hospital on April 17th last suffering from pain in the stomach and vomiting. These symptoms commenced seven years ago and had been more or less present ever since. She had lost flesh and occasionally had brought up dark blood in the vomit. She was the mother of eighteen children, of whom ten were living, and there was a pronounced family history of phthisis on the father's side. When admitted the patient presented a somewhat wasted appearance; the gastric pain was constant, being worse after food, and vomiting occurred after every meal. There was tenderness in the epigastrium and right hypochondrium, but no tumour was felt. The tongue was slightly coated and the appetite poor; the bowels were regular. She was put on a milk and beef-tea diet, but no improvement occurred, and three days afterwards was ordered one potassium bichromate capsule (containing one-tenth of a grain) three times a day, with an occasional dose of an elixir of cascara sagrada. During the night she vomited once, but the next day she was free from pain. The improvement continued. On April 28th, eight days after commencing to take the capsules, fish was added to her diet, and on May 5th full diet was allowed. This, however, produced retching and abdominal discomfort, and it was therefore found necessary to replace the meat by fish. Subsequently the patient gradually improved and was finally discharged on May 11th. Reporting herself at the hospital two weeks later, she stated that the improvement had continued and that she was practically well.

CASE 4.—A man aged fifty-nine was admitted into Addenbrooke's Hospital on April 6th last complaining of a constant gnawing pain in the epigastrium and occasionally shooting into the loins. This first commenced about a month before Christmas and had continued ever since. It was sometimes worse about an hour after food, but there was no definite relation to meals. The patient stated that he had lost two stone since Christmas; he had never vomited, and no family history of cancer was obtained. The bowels were constipated. On examination of the abdomen the superficial veins were found distended; an ill-defined roundish mass, slightly tender, was felt in the region of the umbilicus, but no enlargement of the liver or spleen could be detected. A trace of albumin was found in the urine. On admission he was put on a milk and beef-tea diet, a purgative and a simple enema being also given. No improvement occurred. On April 10th potassium bichromate capsules, one three times a day, were given. Improvement almost immediately followed; the pain abated, the patient gained weight and was soon discharged, being able to take solid food with impunity.

CASE 5.—A young woman aged eighteen first consulted me on May 14th, 1892. Her symptoms were pain after eating and extending between the shoulders, occasional vomiting, but no hæmatemesis. She was afraid to eat on account of the pain. The bowels were very costive. The catamenia were regular. She had not been well for two

[1] Vide THE LANCET, April 14th, 1894.

years. There was slight tenderness in the epigastric region. These symptoms were relieved by a mixture containing bismuth, morphia, and magnesia, and by careful dieting. Later in the year she became anæmic and the catamenia irregular, and she was successfully treated with iron pills. In August, 1894, she had a recurrence of the pain, vomiting, constipation, and tenderness in the epigastrium, and the symptoms were again relieved by a bismuth and morphia mixture. The catamenia were, however, irregular, often not reappearing for seven or eight weeks. On March 23rd, 1895, she came to me again with the same symptoms, and I gave her the bichromate capsules. I did not see her again till May 18th, when she informed me that the capsules had stopped the vomiting and that she had had neither sickness nor pain for about seven weeks. Her appetite was better, the bowels more regular, and she felt stronger. She is still continuing to take the capsules.

The next two cases were not successful.

CASE 6.—A man aged about fifty consulted me in December, 1889, for pain in the stomach, or rather a feeling of rawness and soreness. The bowels were regular and the tongue a little coated. He was benefited by a mixture containing bismuth and belladonna. In May and June of the following year the pain, rawness, and soreness returned, and sometimes the pain was very acute. Morphia and bismuth gave him some relief, but a good holiday did him more good than anything. He did not consult me again till April, 1895, when he had the same symptoms as before. His appetite was fair, but he was afraid to eat on account of the pain. I prescribed the bichromate of potash capsules for him, and although he tried them for a fortnight he received no relief. I then placed him upon a mixture containing bismuth, sulpho-carbolate of soda, and Fowler's solution; but I have not seen him since and do not, therefore, know the result.

CASE 7.—The patient was a woman past the menopause who had had at times for years severe attacks of gastralgia, which a powder containing bismuth, magnesia, soda, and compound powder of opium usually relieved. I gave her the capsules, and I thought at first they were benefiting her; but she had a most excruciating attack of pain, and I was obliged to place her upon a strict diet and a bismuth, morphia, and magnesia mixture.

The cases are few in number, but they show the extent of the action of potassium bichromate in the treatment of gastric conditions. That this salt is beneficial in many cases of dyspepsia can no longer be doubted. Both Vulpian and Fraser have described successful cases, and Hare of Philadelphia also mentions its value. Vulpian's cases[2] exhibited a variety of symptoms, but were all of a more or less chronic character. In some patients pain was a prominent symptom, in others there was none; in some no tenderness existed, others on the contrary presented tenderness more or less severe and localised; anorexia was not infrequently absent, and in some blood was found in the vomit. Other cases of his had decided dilatation, and a few were probably cases of malignant disease. In some of the last-named cases the relief was so marked that he thought it was probably due to a specific effect, and consequently he gave the drug in cases of uterine cancer, but without benefit. He thinks, however, that the drug is most useful in those cases of dyspepsia which simulate cancer. Like myself, he does not appear to have been always successful, for in speaking of one case he says, in parenthesis, "I speak only of those cases where I obtained great amelioration." Fraser's cases are very similar to those of Vulpian and my own. They presented very dissimilar symptoms, or perhaps I ought to say combinations of symptoms, but nearly all of them might be classed under what is termed "chronic dyspepsia." Ten of his cases were diagnosed as gastric ulcer, but in all the cases more or less relief immediately followed the potassium bichromate treatment. In cases of anæmia the gastric disturbance was relieved or cured, but the drug had no effect upon the condition of the blood. When iron was administered, however, the amount of hæmoglobin and number of corpuscles very quickly increased, and the patient soon became well. The salt does not appear to possess any great hæmostatic power, and it is practically useless in the treatment of ordinary hæmatemesis. Although the therapeutic value of potassium bichromate is thus evidenced, a rational explanation of its action—that is, its pharmacology—is by no means easy. At the present time numerous cases of poisoning by this salt, of a more or less acute character, are on record, and many experiments (by Orfila, Vulpian, and others) have been made to determine its pharmacological action, but it is peculiarly difficult to draw conclusions from the administration of toxic doses as to the action of minute doses administered therapeutically. Shortly, potassium bichromate in large doses acts upon the nervous system and secreting structures. Administered by the mouth, subcutaneously, or intravenously, it almost invariably produces vomiting and often diarrhœa. After death congestion and ecchymosis of the alimentary tract are usually found. It is, in fact, an irritant poison. As it produces such profound changes when given in toxic doses it is not improbable that in smaller doses it may act as a stimulant to the secretary cells. In all cases of chronic dyspepsia the activity of the gastric cells is modified; indeed, it is usually this modified condition which keeps up the dyspepsia. The stomach is not doing its work, the blood-supply is less active, the structure of the mucosa is changed, and the active cells are perhaps degenerated and are further degenerating. What we wish to do, after removing the cause if this still exists, is to bring back the cells to a normal condition. Sometimes this can be done, but often the pathological changes are such as to make it impossible. In such cases, however, we may alleviate the condition and by careful dieting the patient may continue in apparent health. It is very probable that potassium bichromate acts by modifying this nutritive activity of the various gastric cells, at the same time increasing the blood-supply and producing a more normal digestion. Vulpian thinks it acts on the terminations of the nerves in the mucous membrane, and Fraser also thinks that this may be a factor in its therapeutic action. It has been shown to possess considerable antiseptic power,[3] but it is but slightly astringent. Thus Fraser found that a solution of albumin rendered hazy by a 0·01 per cent. (1 in 10,000) solution of silver nitrate was not affected by a 3 per cent. solution of potassium bichromate. Nevertheless, it must not be forgotten that potassium bichromate is an acid salt with a slight acid reaction, and to this fact part of its pharmacological effect may be due. On the whole, I think we must include this salt under the head of gastric tonics or stomachics. The dose, as I have already indicated, is one-tenth of a grain (one-eighth to one-twelfth) on an empty stomach. It may be given in pill or in solution, with a flavouring agent, or, as I prefer, in capsules. Of contra-indications to its use I know none. Gergens produced nephritis experimentally (degeneration of renal epithelium, albumin, and tube casts in urine), but this only after large doses. Excitation, followed by depression of the nervous system, also occurs after large doses, but although potassium bichromate has been administered therapeutically for some time no such ill effects have been produced.

Cambridge.

[2] Journal de Pharmacie et de Chimie, 5me série, tome viii, p. 215, 321 (1883).

[3] Fraser. Also Laujorrois: Comptes Rendus de l'Académie des Sciences, 1877, i., p. 625.

TREATMENT OF SUNBURN (ERYTHEMA SOLARE) DURING THE VOLUNTEER WEEK AT ALDERSHOT.

BY ALFRED EDDOWES, M.D., C.M. EDIN.,
PHYSICIAN TO THE WESTERN SKIN HOSPITAL.

LAST year's experience as surgeon in the largest Volunteer camp was sufficient to show me that the various methods of treatment adopted for this sometimes serious form of suffering were unsatisfactory, at least in bad cases. Consequently, I determined to go into camp again this year, specially arming myself with additional remedies which, from my knowledge of their usefulness in skin affections generally, seemed likely to prove of value in relieving a trouble which ranks second only in importance to sore-foot amongst the few drawbacks attending what forms one of the best possible holidays for a town man. Though the week in camp this year was neither sunny on the whole nor dusty, there were produced sufficiently numerous and severe cases of sore and swollen faces, necks and arms to test the relative merits of my remedies. Briefly stated, my conclusions were as follows:—

Slight cases may be easily relieved by spirit and powder or lead lotion, or, better still, by a mixture of the latter with lotio calaminæ co. (equal parts).

Cases with a tender but fairly dry surface.—For these contractile collodion containing about 5 per cent. of prepared calamine appeared to answer well. I added the powder in order to give the collodion a dull and flesh-coloured appearance and in the hope that perspiration would the more readily escape through it.

The worst cases.—1. Those of the face and neck obtained most relief from "epidermin"—an emulsion of wax which has somewhat recently been introduced into skin practice from Vienna and is probably already well known to some readers of THE LANCET. As the preparations of epidermin originally made for me soon became mouldy I had a small amount of salicylic acid added to it, and Messrs. Savory and Moore were kind enough, at my suggestion, to colour the remedy, which is ordinarily white, to agree very well with the normal colour of the skin. Before applying the compound the inflamed part was dried, when necessary, with cotton-wool or a towel. The remedy was then applied as rapidly, accurately and evenly as possible with a spatula, no attempt being made to obliterate small ridges, as they settle down during the process of drying. Though the wax sets fairly soon, it appears desirable that it should be applied some time before a hat is placed upon it or it is subjected to much friction. A film as thick as ordinary brown-paper or as butter is usually laid on bread is sufficient. Additions or patchings can be readily made at any time without disturbing the portions which have been found adhering well to the skin. The 0·5 per cent. which was the amount of salicylic acid added does not appear to irritate the already inflamed skin in the very least degree. Whether it assists in releasing pent-up serum in the blisters which frequently accompany the dermatitis is doubtful at present, but certainly blisters quickly disappear under the artificial covering formed by the dressing. 2. The swelling of arms, which is sometimes so acute and sharply circumscribed as to suggest at first glance the possibility of its being erysipelas, is rapidly curable by Unna's zinc-glue dressing with butter-cloth bandage—a dressing which, by the way, is greatly improved in appearance when dyed a true flesh colour and dabbed with cotton-wool of the same hue.

Crude and brief as my observations have necessarily been, they are worth publishing as the hot weather has probably not yet passed, and as other members of the profession, who may have better opportunities than I, may perhaps be induced to employ the above-mentioned remedies and record their results. Those who reside in London will well understand that it does not afford a good field for observation of sunburn.

Old Burlington-street, W.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.* Lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

TWO CASES OF INDURATION OF THE ERECTILE STRUCTURES OF THE PENIS CAUSING RETENTION OF URINE.

(Under the care of Mr. HENRY MORRIS.)

THE literature on the subject of affections of the corpora cavernosa is not extensive and these two cases will therefore be read with care. The first case is probably the less interesting of the two, as it is apparently clear as regards its nature and causation, whilst the prognosis of such cases is good. The character of the deposit in the other case must remain uncertain; it appears to have differed from the conditions described by van Buren—i.e., a chronic inflammation slowly extending in patients over middle age—for in its progress it much resembled a malignant infiltration of the part and caused very much suffering. For the notes of the cases we are indebted to Mr. G. H. Berkeley, late house surgeon.

CASE 1. *Hæmatoma of the left corpus cavernosum from strain a cause of retention of urine.*—A man twenty-six years of age was admitted into the Broderip Ward of the Middlesex Hospital on Oct. 20th, 1893, with retention of urine of more than twenty hours' standing, and with a hard painful swelling extending along the left side of the root of the penis to the perineum. This was within the left crus and corpus cavernosum. He stated that four days before (Oct. 16th) he was helping to lift a very heavy wringing machine when it fell over, pulling him with it. To save himself he gave a sharp jerk sideways and felt a sudden violent pain just above the symphysis pubis. This pain passed away and he felt nothing more of it till the next day. He passed urine without difficulty, but it was "very high coloured." On the day after the strain (Oct. 17th) he felt a pain extending along his penis to the perineum, and on the 18th he suffered great pain when passing urine, and detected a swelling behind his scrotum and on the left side of his penis. The swelling increased, and with it he experienced increasing difficulty in micturating, the urine at length merely dribbling away from him; so he continued up to the time of his admission on the 20th. Mr. Morris passed a catheter and drew off about four pints of normal urine. Some little difficulty with the urine continued for a day or two, but passed off as the swelling in the perineum subsided under rest in bed. By Oct. 31st the swelling, though less, was more clearly defined and its anterior extremity had a pouched process. All pain had gone. By Nov. 7th the swelling had almost disappeared and he left the hospital practically well.

CASE 2. *Consolidation, in nodular form, of the corpora cavernosa and corpus spongiosum, resulting in painful and difficult micturition and occasional retention of urine: cause unknown; median perineal urethrotomy; insanity: death.*—A man aged forty years was admitted into the Broderip Ward of the Middlesex Hospital on Oct. 23rd, 1893, on account of difficulty in passing urine. He stated that, with the exception of gonorrhœa followed by gleet fourteen years before, to the best of his recollection, he had never had any illness. About two years previous to present illness he had some slight difficulty in passing urine, but nothing was done for this, and eventually it got right of itself. A week before admission to the hospital he again experienced difficulty in micturition, trying sometimes ten minutes before any urine came, and then it passed only drop by drop at first, and afterwards would flow in a very small stream. So it had continued with him since, and he has had also pain of a burning character in the penile urethra during micturition. On admission there was felt near the root of the penis a hard oval swelling about the size of a filbert, situated partly on the dorsal aspect and partly on the left side of the organ. It was not adherent to the skin, which moved freely over it, but seemed to be confined and fixed within the left corpus cavernosum. There was also a similar swelling, but of a more elongated shape and about one inch in length, on the under surface of the penis; it was very hard and tense and in close proximity to the urethra, which it in fact surrounded. It was here that the pain was felt on micturition. The urine had a specific gravity of 1020 and did not contain albumin, blood, pus, or sugar. On the following day Mr. Morris passed a No. 10 silver catheter without difficulty, but stated that he met with some little resistance in the penile portion of the urethra. The patient bled a little after the catheterisation, and next morning there were several patches of bloodstaining each the size of a shilling on the sheets. During the thirty hours afterwards he passed twelve ounces of urine; then the catheter was required and twenty-six ounces were withdrawn. A No. 10 olive-headed instrument was used and passed without difficulty. Again a little blood followed the use of the catheter, and again for a few hours afterwards he micturated more readily, but with pain; but then once more difficulty occurred, requiring the reintroduction of the instrument. On Oct. 28th a catheter was tied in and hot fomentations were applied over the indurated parts of the penis and urethra. The catheter *en demeure* set up some simple urethritis which required aseptic irrigation, but the instrument was retained and the discomfort of urinating was thereby removed, and the swellings seemed to become softer. During November various treatment was tried, but things remained much about the same. The nodules in the cavernous and spongy bodies were not appreciably altered, but micturition seemed easier, and so on

Nov. 29th the patient sought his discharge. It was noted on this day that "the nodules are just as hard and seem to be joining one another more than before." On Dec. 5th he was readmitted. He then stated that he had remained quite easy till Dec. 2nd, when he was again unable to pass urine, and he applied at the out-patient department about 6 P.M. Unsuccessful attempts to relieve him by catheters were then made, and as there was no vacant bed in the hospital he was sent to the University College Hospital. Here, after several unsuccessful efforts had been made, a No. 7 silver instrument was passed, after which he bled a good deal during the night and had to rise to micturate every hour or two during the next day, micturition being attended with great pain. As he had been discharged from the University College Hospital owing to want of beds he returned to the Middlesex Hospital and was admitted. It was at this time noted that "both corpora cavernosa are now infiltrated with hard nodules or masses which extend nearly the whole length from the glans penis to the rami of the pubes." The glans itself was painful and ulcerated, and the urethra was the seat of considerable smarting pain, but there was no discharge from it. Chordee now became a marked symptom, and pain on micturition continued. The urine was of a specific gravity of 1018 and was strongly acid; it contained a trace of albumin, but no blood, pus, or sugar. After four days in the hospital it was noticed that the glans penis was becoming gradually enlarged and hardened, and as time went on it threatened to slough. All kinds of remedies were tried—ice, ointments, and lotions locally, and iodide of potassium, mercury, colchicum, salicylate of sodium, and many other drugs internally. On Dec. 18th he was seen by the late Mr. Hulke in consultation with Mr. Morris, and it was decided to apply nitrate of mercury ointment to the indurated parts, and to continue perchloride of mercury and potassium iodide internally. On Dec. 29th, as the urethra was almost obliterated, the passing of urine attended with great pain, and the deposit, whatever it was, had infiltrated the whole of the erectile structures of the penis, it was decided to open the membranous urethra in order to give physiological rest to the fore part of the urethra with the hope that absorption of the deposit would take place, and that relief from the constantly recurring pain of micturition would be realised. In performing the boutonnière in the ordinary way the crura penis were seen to be greatly enlarged and looked and felt like cartilage. Very free hæmorrhage followed the incision of the floor of the urethra. A drainage-tube was introduced into the bladder from the perineum and about thirty ounces of urine were withdrawn. The tube was tied in and the wound was plugged and dressed with iodoform. Subsequently cocaine was frequently injected down the urethra to relieve the pain, which was almost constant. The penis was after, as well as before, the boutonnière always in a state of nearly complete erection, and the patient bitterly complained of the aching pain this caused. During the first fortnight of January, 1894, the condition became more aggravated; the glans penis assumed a greenish hue all over its dorsal surface; there were "stinging" pains in the penis, and such restlessness and excitement, especially at night, that a special attendant was required. On Jan. 17th the state of things was so bad, and becoming rapidly so much worse, that Mr. Morris was contemplating obtaining the patient's sanction to amputate the whole penis, and he did propose to him to make free incisions into the indurated parts, but the man refused any further operation. The drainage-tube was retained in his bladder, and the slough on the glans spread peripherally, but not much in depth. The smell of the discharge from it was very offensive, and the patient continued in great pain in spite of the administration of morphia and other anodynes. By Jan. 23rd his sleeplessness, excitement, and restlessness had so increased that he was unquestionably insane and had to be put into an isolation ward, and the next day he was transferred to the Marylebone Infirmary. There he died within a day or two of his removal, and on inquiry it was ascertained that, unfortunately for the complete understanding of this case, no post-mortem examination was made.

Remarks by Mr. HENRY MORRIS.—These two cases from their great rarity seem to be worthy of being placed on record in the Hospital Mirror of THE LANCET. Case 1 is one of intra-cavernous hæmorrhage resulting from a strain, and it is interesting on account of its causing painful micturition and afterwards complete retention of urine. This was doubtless due to the direct pressure upon and deflection of the course of the urethra which the blood extravasating into and stretching the corpus cavernosum produced. The condition cleared up after a short period of rest in bed and the occasional use of the catheter.

Case 2 was altogether of a different character, though there was much the same effect produced upon micturition. Neither simple nor gonorrhœal nor syphilitic inflammation, nor injury, gout, tubercle, nor gummata were the cause of this disease. Neither was it an instance of calcification of the sheath and septum of the corpora cavernosa, nor of the cicatricial contraction after inflammation or gummata. I do not know how to classify this case, and I do not know, in the absence of a microscopical examination of the deposit, to what change to assign it. Its course was more like multiple malignant neoplasms. The chief symptoms were the nodular masses, which gradually coalesced, and which at length resulted in a condition of priapism, or at any rate of chronic thickening and stiffening of the organ which resembled nearly complete erection. Associated with these physical changes in the organ were the pain in the penis and urethra, which became at last constant, and the difficulty in micturition. The superficial sloughing of the glans penis is also noteworthy. As to treatment nothing did the patient any good so far as diminishing the induration of the erectile tissues of the penis; the boutonnière relieved the bladder, but made no change otherwise. The pain in the penis, and the terrible mental distress, sleeplessness, and excitement remained unabated by it. I have no doubt that the insanity which supervened was the direct effect of these causes. In the absence of a post-mortem examination I offer no explanation of the cause of death, which took place after he had left my hands. Should a similar case, equally untractable to local and internal remedies, come under my care I should certainly propose to freely lay open the diseased parts, and, if necessary, amputate the penis at its connexions with the pubes.

ESSEX AND COLCHESTER GENERAL HOSPITAL.

A CASE OF ADENOMA SEBACEUM.

(Under the care of Mr. H. LAVER.)

THE disease of the skin described below by Dr. Coleman is undoubtedly a very rare one, as he observes. There have, however, been a few cases published in recent years by Balzer, Pringle, and Caspary. In Caspary's case the little tumours had developed after small-pox. Microscopical examination showed them to consist of a great number of sebaceous glands, closely packed in the deeper parts of the corium, the other structures of the skin being healthy.[1] For the notes of this case we are indebted to Dr. Percy Coleman, house surgeon.

The patient is a man twenty-seven years of age. He attended the hospital to be treated for an injury to his hand, but, his skin affection being noticed, he was admitted as an in-patient. He stated that he was about eight years of age when the disease first made its appearance on his face. It commenced on the face on both sides of the nose as "small pimples," so small that no attention was paid to them. These "pimples" then began to form round the angles of the mouth and on the upper lip and chin. The last parts to be attacked were the eyelids and forehead. His family history is good. Seven brothers and two sisters are alive and healthy. One brother died in infancy. There is no history of new growths or insanity in the family. He is a healthy-looking, well-nourished man with an eruption on most parts of the face. The growths vary in size from mere papules to nodules each as large as a split pea. At the sides of the nose the papules are so thickly packed that they run together and form an irregularly nodulated surface with no healthy skin between. Below the lower lip there is a narrow belt of the disease running parallel to the lip and about half-way between the margin of the lip and the lower border of the jaw. The skin over the inferior maxillæ, as far back as the angles of the jaw, is thickly studded with papules, but here they are discrete. On the nose there are only a few papules, but several of the larger nodules. A few papules are to be seen on the forehead

[1] Sajous' Annual of the Universal Medical Sciences, 1892, vol. iv., A 2.

and on the skin covering the mastoid processes of the temporal bones. The lesions themselves are reddish in colour, firm to the touch, and at first sight have some resemblance to acne, but they are evidently not inflammatory. One or two of the larger nodules show an attempt at pedunculation. Nothing like an orifice to the sebaceous gland can be detected on any of the little growths, even with a lens. There is a scanty sprinkling of comedones about the rest of the face. On stripping the patient it was found that the skin of the back exhibited several soft flaccid tumours, some one-fourth of an inch in length. These are evidently soft fibromata. In addition to these there were numerous flat growths—the largest as big round as a sixpenny-piece—of a pale-pink colour and having the appearance of multiple warts. The skin over the shoulders, both front and back, was similarly affected. Here also there were many growths looking like solitary warts of a pale pinkish tint. In the left infra-clavicular region there was a patch of skin about four inches square thickly studded with whitish elevations somewhat resembling milium, but quite solid. Each elevation was about the size of a millet-seed in circumference, but very slightly raised, being only just perceptible to the finger. This patch had existed ever since the patient was an infant. His mother told him that "a frog had spit upon him on that place and had left that mark." He merely complains of a slight itching when he gets over-heated or works in an atmosphere laden with dust.

Remarks by Dr. COLEMAN.—This disease is so rare that the case described above seemed to me to be worthy of a detailed description. Very little mention is made of it in any of the text-books on medicine and surgery in general use. Hilton Fagge's work on Medicine states that "the little tumours appear to undergo spontaneous involution." It seems probable that the patch above described as existing beneath the left clavicle is the seat of this change in the growths. One other case, in which the disease was limited to the face, has come under my notice. The patient was a female idiot seventeen years of age. The description given above of the facial appearance is almost equally applicable to her case. Mr. William Anderson, of St. Thomas's Hospital, has kindly examined the case and confirmed our diagnosis.

Reviews and Notices of Books.

Leçons de Chirurgie (*La Pitié, 1893–94*). Par le Dr. FÉLIX LEJARS. Paris: G. Masson. 1895. pp. 629.

CLINICAL lectures have a distinct function of their own. They serve to concentrate attention on a special subject in a manner which cannot be attempted in a systematic treatise, and their educational value is great. It is becoming more generally recognised that many clinical lectures are worthy the attention of an audience more extensive than that to which they were first delivered. In the volume before us are forty-seven clinical lectures on various departments of surgery, delivered by Dr. Lejars at La Pitié Hospital during the session 1893–94. The first seven lectures are devoted to general surgical pathology; 19 refer to the surgery of the limbs, 3 to the head and neck, 3 to the alimentary canal, 7 to the genito-urinary organs, and 8 deal with gynæcological subjects. The lectures are too numerous to be referred to individually, but some are of more striking interest than others. One of the lectures on surgical pathology deals with Thiersch's grafts (or Ollier-Thiersch grafts, as Dr. Lejars prefers to call them, as Ollier practised this method as early as 1871, while Thiersch published his first results in 1874); the results which have been obtained by this procedure in the hands of Dr. Lejars have been exceedingly satisfactory, and especially was this the case with "varicose ulcers" of the leg, even when the ulcer has been annular; he concurs with Thiersch in insisting on prolonged rest in bed after the operation in order to assure the vitality of the grafts. Another interesting lecture in the same section deals with the exostoses occurring in childhood, and a case is quoted from Heyman which is greatly in favour of their hereditary nature, a woman and five of her six children being affected with multiple exostoses. In a lecture on fracture of the clavicle Dr. Lejars is inclined to advocate suture in recent cases when the deformity is very great; a good account is given of the various methods of suturing this and other bones.

Forty-two cases of radical cure of hernia form the basis of a lecture on that subject, and much emphasis is laid on the importance of choosing the cases on which to operate. The results recorded are certainly good, but in many of them sufficient time had not elapsed to allow a definite statement as to their permanent cure to be made. Suprapubic cystotomy receives an extended notice, and three indications are given for its performance. It should be performed: (1) in cases of acute prostatitis with complete retention when attempts to pass a catheter have failed; (2) when micturition is painful and difficult, and catheterisation, though possible, is accompanied by much trouble and bleeding; and (3) when septic infection of the bladder has become well marked. The gynæcological lectures are of great interest, especially the one dealing with the operative treatment of suppuration in the Fallopian tube or ovary. A lecture on the surgical statistics of the hospital for the year fittingly concludes the volume.

It may safely be said that there is no lecture in the whole volume which is without interest to the surgeon. The illustrations, 128 in number, have been very neatly drawn and engraved, and serve to enhance the appearance of the text, the typographical excellence of which is very great.

Heart Inflammation in Children. By OCTAVIUS STURGES, M.D. Cantab., F.R.C.P. Lond., &c. London: John Bale and Sons. 1895.

THE revision of this little book of eighty-two pages was the last work of the life of its lamented author. It is a reprint of the Lumleian Lectures delivered at the Royal College of Surgeons in 1894. It is also the ripe fruit of the mature and extensive experience of an observant and thoughtful physician too soon lost to his profession. Many much more pretentious monographs contain not a tithe of the value and guidance to be found in these pages, and to that large class who come more or less constantly in contact with ailing children we consider it our duty to recommend their perusal and reperusal. Apart from the valuable matter contained in the little work, there are an occasional felicity and sentiment in diction which indicate the cultured and sensitive gentleman, and which call for comment. "The heart of a little child, I say, at the first blush, would seem to be as simple in physical as it is in moral respects; but experience teaches otherwise. The child's heart holds as many secrets as the man's, and is even more deceiving" (p. 4). And again he quaintly remarks, in speaking of the friction rub of pericarditis as a diagnostic sign, "It may be said ..... of this sound, as of other things in Nature, that the noise it makes is not proportionate to its importance" (p. 22). There is a careful study of the pathology of cardiac inflammation, with good illustrations of the microscopic state of the muscle at various stages of the disease. The physical indications of this state are dealt with in the second lecture, and among other interesting points discussed the author enters in some detail into the question of the clinical recognisability of adherent pericardium, granting the possibility of diagnosing that "quite exceptional condition," costo-pericardial adhesion, when the pericardium is at the same time adherent to the heart (p. 40), but not that of "old adherent pericardium as we usually encounter it"—an opinion which the experience of most physicians will endorse. The author believed that extensive pericardial effusion, by tiding over the time during which the pericarditic surfaces were likely to adhere, had an

influence in obviating cardiac symphysis. Dr. Sturges was also one of those who was of opinion that the endocarditis of chorea was not necessarily rheumatic, and wisely criticises the tendency of extending the "idea" of rheumatism, which he likens to the eternal *noumenon* of ancient philosophy (p. 67), over too wide an area. There are many other points, alike in diagnosis, prognosis, and treatment, which the reader will find in this valuable guide to the subject with which the monograph deals, and which space forbids our particularising. Distinguished as the author was, and worthily so, he made perhaps less noise in the world than many less observant, less profound, and less reliable physicians, but in leaving to his profession the legacy of this masterly study of a very difficult subject he has laid those who survive him under a debt of gratitude, done much to perpetuate among us his memory, and in the length and interest of art to reconcile us to the brevity of life.

The Student's Text-book of Botany. By SIDNEY H. VINES, M.A., D.Sc., F.R.S. London: Swan Sonnenschein and Co. New York: Macmillan and Co. 1895. 15*s*.

THE name of Professor Vines is familiar to most students of botany in association with the well-known manual by "Prantle and Vines." In the work at present under consideration the author has to some extent followed the general arrangement of the older publication, but has made such extensive additions to all the sections that the book, besides retaining its special value for those commencing the subject, will now also serve as a useful guide to those who have gone beyond the elements of the science. The work is divided into four principal sections, which deal respectively with Morphology, Anatomy and Histology, Classification, and the General Physiology of Plants. The section on Classification occupies a large proportion of the book, and is based upon the natural fundamental relationship which exists between plants. This mode of classification, though necessarily at present incomplete owing to our deficiency of knowledge, is, as Professor Vines points out, superior to the more artificial methods, which must always be more or less arbitrary, the most successful of such artificial classifications being that of Linnæus, which is known as the "sexual system," and classifies the orders by the number and mode of arrangement of the floral organs. The last section of the book, which treats of the general physiology of plants, is very interesting, many of the chemical processes being fully given, and a table is drawn up to show the modes of income and expenditure both in those plants which possess chlorophyll and those which do not. The general physiology of reproduction is given, the laws of heredity and variation are touched upon, and there is an account of the various movements, automatic and otherwise, to which a plant is subject. The whole forms a very complete volume, which we have no doubt will be welcomed by those interested in the subject. The book is well illustrated and nicely bound.

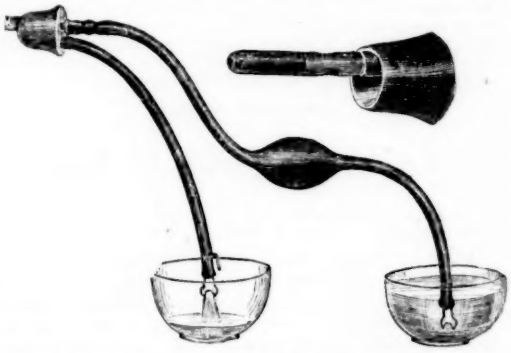
Infant Feeding by Artificial Means: a Scientific and Practical Treatise on the Dietetics of Infancy. By S. H. SADLER. London: The Scientific Press, Limited. 1895.

THIS excellent manual is not only well stored with information necessary for mothers and nurses, but contains much that is of interest to the medical reader. The authoress has spared no pains in the collection of materials, and has consulted the best English and French authorities, quotations from their works being frequently given at considerable length. After some preliminary pages on the use of the feeding-bottle she describes the rearing of prematurely born infants by means of the "thermostatic nurse" or "couveuse" (a small wooden box warmed with hot-water tins), and the feeding of them with the œsophageal tube. Cow's milk is, of course, in most cases the staple sustenance of hand-reared infants. As it differs from human milk in having an excess of casein and a comparative deficiency of sugar, it has to be adapted to the digestion of infants by various expedients, such as admixture with water, barley-water, lime-water, tea, whey, and other diluents. It may also be peptonised or partially digested with pancreatic juice, and may be to some extent replaced by the milk of the ass or goat. The authoress acknowledges a preference for "artificial human milk," prepared by adding whey and milk sugar to cow's milk enriched with extra cream. The formula for "artificial ass's milk" at p. 159 will, perhaps, surprise her readers. Some more information might have been given with respect to the sterilisation or Pasteurisation of cow's milk. The concluding section is devoted to various farinaceous proprietary foods, arrowroot, raw meat juice, beef-tea, jellies, and puddings.

New Inventions.

THE "ZULA" SYRINGE AND IRRIGATOR.

THIS syringe has the advantage of being provided with a tube through which the fluid that has been injected may flow away into the vessel intended to receive it. It therefore not only supplies a constant stream of fluid for vaginal injection, but avoids the usual annoyance of wetting or staining the underclothing or sheets during the application. The tube from the indiarubber ball leads into a conical vulcanite plug which completely closes the entrance of the



vagina and compels the surplus fluid to pass through a second opening in this plug, and so into the special outflow tube. The ball with its injection tube may be readily detached from the vaginal plug and fitted to an accompanying bone nozzle or rectum tube, and is then available for use as an enema syringe. The apparatus is made of enamelled black rubber, and is packed in a box six inches by eight inches by two inches high. It may be obtained from any druggist or surgical instrument maker.

DEATH IN A HOSPITAL BATH.—A strange death formed the subject of an inquest at Portsmouth on Thursday, Aug. 29th. A man aged thirty-two was sent by Mr. Newby as an applicant for admission to the Royal Hospital at Landport. He was suffering from bronchitis in both lungs, and, having been examined by the house surgeon, was sent to get a bath and go to bed. The water was from 90° to 100° F. in temperature, and one of the nurses asked him before he was left if he was subject to fainting fits, to which he replied in the negative. He had been in the bath-room about ten minutes when a nurse, requiring something from the compartment, sent a lad to get it. The latter found Bunting (the deceased) under the water and at once ran for assistance. The man was, however, quite dead, and he had not the appearance of asphyxia from drowning. A necropsy revealed a ruptured aneurysm.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 14, 1895.

THE British Association for the Advancement of Science held its sixty-fifth meeting this week at the ancient town of Ipswich, where it had assembled forty-four years ago. Ipswich, among other things, has a grammar school, where the renowned Dr. VALPY disciplined and taught the rising generation of his day, and where not so long ago a very notable Greek scholar of our time (Dr. H. HOLDEN) was the headmaster. It was at Ipswich, also, that HUXLEY first made the acquaintance of TYNDALL at the meeting of the Association in 1851. Sir DOUGLAS GALTON, K.C.B., D.C.L., F.R.S., the President of the Association, delivered the presidential address. The name of Sir DOUGLAS GALTON is a well-known one in scientific circles, and for many years past it has been associated with the advancement of sanitary science and the progressive development and practical advocacy of the principles of modern hygiene. He tells us that he first began to attend the meetings of the British Association about forty-six years ago, and that he was elected one of its general secretaries twenty-five years ago. It was both natural and fitting, therefore, that he should recall to the minds of his hearers the conditions under which science was pursued at the formation of the Association, the progress that has been made between 1831 and 1895, and the remarkable position which the Association has occupied in relation to science in this country. He made this consequently the text and pivot of his address. There was no lack of interesting and important material in the subject selected, and, indeed, it must have called for an exercise of the scientific judgment, and of the scientific imagination also, to know what not to say as well as what to say on the occasion. Sir DOUGLAS GALTON may be fairly congratulated, however, on having given his audience a very interesting and graphic account of the progressive steps in the march of modern science. We cannot, of course, traverse the whole field occupied in this presidential address—we can only follow a few of the furrows along which Sir DOUGLAS GALTON, in the orderly arrangement of his able review, disposed of his material, interspersing comments of his own which are generally conceived in a spirit of scientific faith in the future, although sometimes possibly in a too optimistic one. It has to be borne in mind that it is the main function of science to trace out the uniformities of sequence in all departments of nature, and the invariable consequences, within human experience, of certain antecedent conditions. The how and the why are mysteries that sometimes cannot be explained, but the work of science has been so fruitful of results that it always excites enthusiasm. Before passing to the more immediate subject of his address Sir DOUGLAS GALTON incidentally referred to the great loss which science has recently sustained by the death of the Right Hon. THOMAS HENRY HUXLEY. HUXLEY, he said, was pre-eminently qualified to assist in sweeping away the obstruction by dogmatic authority, which in the early days of the Association fettered progress in certain branches of science. For whilst he was an eminent leader in biological research, his intellectual power, his original and intrepid mind, his vigorous and masculine English made him a writer who explained the deepest subject with transparent clearness.

In 1831, when the British Association was founded, communication between different parts of the country was slow and difficult owing to the absence of railways. Science was, therefore, localised, and in addition to the universities in England, Scotland, and Ireland the towns of Birmingham, Manchester, Plymouth, and York each maintained an important nucleus of scientific research. In its origin the British Association invited the philosophical societies dispersed throughout Great Britain to unite in coöperative union, and within recent years it has endeavoured to consolidate that union. At the present time almost all important local scientific societies scattered throughout the country, some sixty-six in number, are in correspondence with the Association, which has, moreover, shown that its scope is conterminous with the British Empire by holding one of its annual meetings at Montreal, and it is likely soon, we are told, to hold a meeting in Toronto. Speaking of the condition of certain sciences at the formation of the British Association and of the enormous strides which have been made since 1831 in the investigation of facts to elucidate the laws of nature, Sir DOUGLAS GALTON adverted to the impediments offered to the progress of investigation by the mental condition of the community, which had been for so long satisfied to accept assumptions without undergoing the labour of testing their truth by ascertaining the real facts, and he furnished two illustrations of this habit of mind selected from the early reports of the Association. The whole habit of mind of the population of the Western world has been changed, he added, since the beginning of the century from willing acceptance of authority as a rule of life to a universal spirit of inquiry and experimental investigation; and he conjecturally asked whether this rapid change may not have arisen from society having been stirred to its foundations by the causes and consequences of the French Revolution, and proceeded to trace out this idea in connexion with the origin of the conviction that the basis of scientific research lay in the accuracy of the standards by which observations could be compared and the principles that were laid down as a basis for their measurements of length, weight, and capacity. Sir DOUGLAS GALTON followed up and illustrated his suggestive inquiry in various interesting directions. Passing over such subjects as our progress in geological and geographical science, chemistry, astronomy, and physics, we may, nevertheless, parenthetically allude to the force and *verve* embodied in that section of his address devoted to the consideration of the progress we have made in the sciences which are included under physics. The late Professor ROMANES held that no reason can be assigned why God should not be immanent in nature or why all causation should not be the immediate expression of His will; and, speaking of

the probable close connexion of electricity with the vibrations which cause heat and light and which seem to pervade all space, Sir DOUGLAS GALTON, with an exercise of his scientific imagination, remarked: "Vibrations which may be termed the voice of the Creator calling to each atom and to each cell of protoplasm to fall into its ordained position, each, as it were, a musical note in the harmonious symphony which we call the universe." Under the head of animal physiology allusion was made to CUVIER, who died in 1832, Sir RICHARD OWEN, and DARWIN, and to the non-acceptance by OWEN of the latter's theory of evolution—a doctrine now generally accepted, but on the threshold of which we are still standing as it were, and concerning which each fresh investigation suggests fresh problems. Evolution, as Sir WILLIAM FLOWER said, is the message which biology has sent to help us on with some of the problems of human life, and so Sir DOUGLAS GALTON had a good deal to say about anthropology in relation to heredity, psychology, and the science of preventive medicine. His address also gave a brief but excellent sketch of the origin, progress, and relations of the modern science of bacteriology to our knowledge of life, health, and disease, forming a point of meeting, as he said, where the biologist, the chemist, the physicist, and the statistician unite with the sanitary engineer in the application of the science of preventive medicine.

As might have been expected, Sir DOUGLAS GALTON condensed much useful information in his remarks on sewage purification, and spoke with the authority that comes of knowledge in dealing with the scientific principles which should guide us in this respect. He concluded his address with some pertinent and forcible observations on the relations of science to the State and the way in which our Governments have so largely profited by science, and remarked upon the small measure of recognition in the way of honours that have been conferred by the State upon leaders of science as compared with those awarded to its own officials, to the army and navy, and to politicians. He considered that Government assistance to science in other respects might also be more pronounced than is the case.

As might have been anticipated at this season there has been a revitalisation or recrudescence of cholera, but happily not on any large scale, at various places abroad where the epidemic had already prevailed in past years. According to official returns from St. Petersburg over 2000 cases of cholera, with 718 deaths, occurred in the government of Volhynia between July 11th and Aug. 17th. The town of Vladivostock has been declared infected with the disease, and so has the province of Podolia. Some cases have also occurred in Galicia and in districts adjoining the Russian frontier. There has been a sharp outbreak of cholera at Tangier, and communication between that place and Gibraltar and Malta has been stopped in consequence. We learn from San Francisco that the disease has been recently prevailing at Honolulu, and that the United States Consul at that place warned the captain of an American-Australian Line steamer of the fact in view of none of the passengers being landed. No further news has arrived from Japan of the extensive epidemic outbreak of cholera in that country to which we alluded last week. The disease in this case followed the Chino-Japanese war and the increased communication between Corea and Japan. But cholera is said to be raging in China, a large number of deaths occurring daily at Pekin. There was a remarkable decrease in the amount of cholera in India last year, but it was unusually prevalent in Burma, where no fewer than 7428 deaths were recorded, which was very largely in excess of the mortality of the previous year from this cause.

As regards this country the alleged reappearance of cholera on the Humber and the reported occurrence of two suspicious cases at Grimsby, both of which terminated fatally, gave rise to some apprehension. This feeling was very natural under the circumstances, especially as it was stated that cases of diarrhœa had been exceptionally prevalent of late in Grimsby and Hull. The Medical Department of the Local Government Board despatched one of their inspectors to inquire into the facts and ascertain the local conditions of the Humber ports. But the results of Professor KLEIN'S bacteriological observations have happily not been corroborative of the fears that were entertained that the cases in question were those of Asiatic cholera. The failure to discover the comma bacillus, on the one hand, and the non-extension of the disease in the locality, on the other, show that the cases at Grimsby were in all probability only those of so-called English cholera, such as might be expected to arise at this season from ordinary causes, and they do not consequently at all justify the belief that there is any recrudescence of the late epidemic at Grimsby. Bearing in mind the period of the year which we have now reached, the hot and dry autumn we are enjoying, and our freedom from any manifestations of a cholera epidemic in this country up to the present time, we are not inclined to be apprehensive of the extension to this country of the epidemic which has marched from the East and prevailed with such force in Russia and other countries on the continent of Europe.

As we have already intimated, the natural life-history of an epidemic usually covers a period of from three to four years. We have still much to learn as to the time during which the cholera-cause or pathogenetic micro-organism may remain dormant or latent, but still capable of renewing the manifestations of its vitality under the operation of favouring conditions. It is clear that a good deal will depend upon several circumstances, some of which are of an apparently insignificant, but really of an important and influential, character in determining the renewed activity or recrudescence of the disease. If we may judge from what we know of cholera in the past one thing seems to be fairly well established—viz., that there may be recurrences of outbreaks in a locality without any fresh reimportation of its cause. Whether we regard the bodies of the sick as the exclusive sources of the development and multiplication of the cholera-cause, or look rather, as some do, to the environment for an explanation of these phenomena, it seems clear that the infecting cause may long remain dormant, and that the environment is an important factor in the history of cholera, otherwise removal from an infected locality would not be attended with

the results which experience has shown to be the case. Although we have not by any means yet attained a perfect hygienic standard, the sanitary state of our cities, towns, and rural districts is altogether superior to that of most places abroad. We are aware of our defects and keenly alive to the importance of keeping our systems of water-supply protected from all contamination, and, thanks to the sanitary surveillance exercised by the Medical Department of the Local Government Board and our port sanitary authorities we are promptly made acquainted with any sources of danger and infection from without and have adopted a simple, practical, and, to judge by the results of our experience during the recent epidemic, an apparently successful method of dealing with them, simply because those methods are such as commend themselves to the intelligence and common sense of the community at large and are practicable in their application.

OUR readers no doubt have read the accounts of the recent pilgrimages to Lourdes and the marvellous cures alleged to have been effected at the shrine of the Virgin in the little Pyrenean village. The story of the arrival of trains laden with sick folk, the vast processions of the lame, the halt, and the blind, the imposing ecclesiastical ceremonies, and the alleged miraculous recoveries seems to take us back to the Middle Ages, and it requires an effort to convince ourselves that all this is really going on in free-thinking France and in the nineteenth century. But France has no monopoly of the modern miracle. It is not long since the little village of Knock in the West of Ireland was the scene of pilgrimages on the part of sick people, and when even the plaster from the walls of the shrine there was held by the faithful to possess the most magical healing powers. And now another case reaches us from St. Winifride's Well at Holywell. A retired soldier forty-two years of age, alleged to be suffering from "heart disease, diseased bloodvessels in the leg, and to be of a consumptive tendency"—a fairly comprehensive, if not very exact or convincing, diagnosis—was brought to the well by an attendant (the patient being a cripple) and lifted into the water. He stated that he felt "as if he had electric batteries at work all over him," and after a time said that he thought he could stand. He did so and was able to move freely about to the astonishment of all present, as only a short time previously he had come to the place on crutches. On the same afternoon he was seen walking comfortably about the streets and apparently well. The correspondent who describes the incident concludes by saying that "the cure is generally regarded as one of the most extraordinary that have yet taken place at the well." We give the facts as they have appeared in the lay press. This case is, of course, in no way exceptional and belongs to the numerous class whose thank-offerings of votive legs, arms, eyes, &c. presented at the various shrines are among the most familiar objects of Continental travel.

There are three possible attitudes which may be assumed towards these alleged miracles of healing. There is the attitude of the pious believer, who accepts these stories on the authority of his ecclesiastical superiors, whose faith is to a large extent independent of evidence and to whom the essential point is not scientific accuracy but pious edification. We need hardly say that with this class we have no direct concern, and we are by no means disposed to insult the convictions of those who differ widely from ourselves. There is a second class who take the view that these alleged cures are all absolute frauds, a mere playing by cunning men upon the superstitions, frailties, and misfortunes of the ignorant multitude. We do not regard this position as by any means wholly satisfactory, or one that can be easily reconciled with the facts of the case. We think a third view, intermediate in character, more tenable. We think it probable that many of the prominent leaders in these scenes act quite *bonâ fide*. That actual "cures" take place is by no means incredible. They have been repeatedly attested by men whose *bona fides* is incontestable and whose incapacity for making a correct observation is by no means to be lightly assumed. Having said so much by way of admission, we must add that we have seen no evidence that in the least degree inclines us to admit any supernatural or miraculous element in these cases. Probably these alleged cures are capable of differentiation and are not to be readily grouped under one heading. Putting aside cases of imaginary ailments and of conscious or unconscious imposition—and we are entirely of the opinion that these two classes are largely represented at most shrines of healing—let us assume that there remain a considerable number of cases in which definite maladies have disappeared after recourse to these shrines or sacred wells. It by no means follows that a miracle has been wrought, though by pious and ignorant observers this seems the natural, the inevitable deduction. The question first arises whether any of these sacred waters—it is to be observed that a spring or a well is an almost invariable, certainly a very frequent, adjunct of these shrines of healing—might possibly possess some real therapeutic virtues. There is nothing improbable in such a supposition. The electric bath is a therapeutic agent of considerable potency. A bath in water surcharged with carbonic acid gas exercises an influence over the organism, and especially upon the nervous system, which may in certain subjects produce surprising results. How far certain of these so-called miraculous springs and wells may possess qualities analogous to these we cannot say, but there is nothing extravagant in the supposition that such analogies may exist.

But we must frankly confess that we have a strong conviction that the great majority of these "cures" belong to a wholly different class; that they are, in fact, identical with those neurotic cases with which hypnotism has made us so familiar. It will always be observed in reading the accounts of the phenomena alleged to occur at Lourdes, Knock, and elsewhere that the cures occur precisely in the sort of patient and in forms of disease most likely to be affected by forces identical with, or analogous to, hypnotism. Highly strung, enthusiastic, and visionary girls figure largely in these accounts, while the diseases alleged to be most amenable to cure are such affections as catalepsy, paralysis, blindness, &c., all of which occur frequently as functional affections liable at any moment to be dissipated by any cause that makes a strong impression on the nervous system. No doubt cures of such conditions as advanced phthisis have been repeatedly alleged, but, so far as we know, a careful investigation by competent persons has

always disproved the genuineness of such cases. Often the marked temporary improvement has been merely the result of an extreme exaltation of the nervous system, to be quickly followed by a resumption of all the old symptoms and the inevitable end. It is not our business to touch on questions of a theological nature—e.g., such as the possibility of miracles or the like. We may leave such subjects to the professed theologian or to his assailants. But we are much concerned in anything that vitally touches the science of medicine or the art of healing, and therefore we need make no apology for offering these observations to our readers. While not denying all reality to these curious phenomena it must always be a pathetic sight to see multitudes of suffering men and women turning away from the well-proved methods of scientific medicine and following strange paths which in the vast majority of cases can conduct to nothing but disappointment and death.

Annotations.

"Ne quid nimis."

MEDICAL ADVERTISING IN AUSTRIA.

THE members of the Vienna Medical Chamber have recently been engaged in the consideration of professional advertising, the main point at issue being the fixation of limits beyond which the practice should be prohibited. After a lengthened and animated discussion the following articles were adopted. A medical man committing any of the acts hereafter specified shall be considered guilty of an offence against professional dignity: 1. Causing, or permitting, or refraining from preventing (when he has the power) the insertion of advertisements in newspapers, journals, indexes, guide-books, annuals, leaflets, circulars, or any other description of printed matter. This article, however, does not refer to medical publications, nor is it meant to hinder a medical man from publicly proclaiming his entry into practice, his return after a prolonged absence, or his change of domicile, provided the notification is not repeated more than three times. The same information may also be conveyed by means of a circular, but in both cases the notice must contain nothing additional beyond the name of the advertiser, his academical qualifications and legal medical designation, an indication of the speciality he professes, his address, and the hours he is at home for consultation. 2. Publishing, or allowing to be published, letters of thanks and expressions of gratitude from patients who have been treated by him. 3. Recommending, either directly or indirectly, in pamphlets and popular publications, his own system and methods of treatment in preference to those of other practitioners. 4. Allowing commission to midwives, waiters, commissionaires, porters, &c., in return for their services in procuring him patients. 5. Drawing public attention to himself by means of a charlatan's sign-board. 6. Endeavouring in an unbecoming manner, after the fashion of quacks, to attract notice to the medical establishment he either owns or directs. From the foregoing it is evident that far more latitude in the way of advertising is allowed to the medical profession in Austria than is the case with us. We are certainly of opinion that the best way to safeguard professional dignity is by drawing up a hard and fast regulation prohibitive of personal announcements of every kind and description. Half measures are never productive of good. We sincerely hope that the permission to insert professional advertisements in the lay press, no matter how severe the limitations, may never become acclimatised in England. In order to show how liable a concession is to abuse it is only necessary to mention the inordinate growth of practitioners' door-plates in Paris. Originally, as with us, simple rectangular pieces of brass, bearing the name of the practitioner in letters of modest dimensions, they have now, according to M. le Baron, developed into gigantic sign-boards affixed in many cases to windows or even to balconies.

THE EXAMINATION FOR THE DIPLOMA OF PUBLIC HEALTH (ENGLISH CONJOINT BOARD).

A "PROSPECTIVE M. O. H." writes protesting against the present mode of conducting the examination for the above-named diploma, which, he says, "bids fair to the establishing of an unsurmountable barrier to any general practitioner ever again hoping to obtain it." The unsuccessful candidate is apt to attribute his failure to the fact that he did not manage to satisfy the examiners concerning his knowledge of some few technical points, when possibly it may have been rather a general lack of information with regard to the subject matter of examination which proved his ruin. In the present instance the papers of a "Prospective M. O. H." are not in evidence, but, taking him upon his own ground, the case he makes out is far from being a strong one. He objects to being expected to understand the mechanism of the Bramah press, and complains of being questioned concerning the influence of climate, damp, and soil on acute rheumatism. He says the differential diagnosis of a scarlet-fever rash is a "purely medical question," and should not be made the subject of examination for a public-health diploma. The practical part of the examination consisted, he tells us, of "rushing the candidates round some sewage works," and requiring them to write a paper on sewage. The fact is, he concludes, that the whole system of examination as at present conducted is "rotten to the core." The line of argument of a "Prospective M.O.H." is far from being convincing, and the instances he cites do not appear to tell in his favour.

THE LATE MILITARY MARCH.

As might have been anticipated, numerous reasons have been assigned in explanation of the fact that a large number of soldiers fell out during the late march from Aldershot to the New Forest. That there was a sudden accession of heat, which was great while it lasted, and that the force was largely composed of young soldiers, who were unequal and comparatively unaccustomed to the physical strain and fatigue of carrying their arms and equipment on long marches through dusty roads in sultry weather, everybody admits. That the men showed a good deal of pluck under the circumstances, and that many of them, footsore and distressed, nevertheless manfully struggled on, is not denied. Practically speaking, there is no good in dwelling upon the fact that young soldiers cannot sustain heat, fatigue, and weight-carrying as well as those who are older and more matured and better trained. We must take our soldiers when we can get them—that is, when they are young. The men are good enough if only time be given them to develop and to be physically trained for military exercises and marches. The British army has always given a good account of itself in the field, and, after all, we are no worse off under a short service system than are Continental nations in this respect; but we have to meet requirements in regard to foreign service—in India and the colonies—such as do not fall to the lot of other nations. The question arises whether nothing can be done in the way of better adjusting our systems of military dress and equipment to the soldier's occupation and the varying seasons and circumstances in

which he is placed. A great many years ago an article appeared in *Blackwood's Magazine* entitled "How shall we dress him?"—to which a practical reply still remains to be given. We have no doubt vastly improved upon the system in vogue at the time of the Crimean War and for some years subsequently, but we have not yet attained our object. The marching power, other things being equal, will, for example, greatly depend upon the way in which the soldier is shod. A good deal has, no doubt, been done in this direction, but the ammunition boot is not perfect—it is too heavy and inelastic, for hot weather especially. This is not to be wondered at, considering the irritation and distress which we all of us more or less undergo at the hands of our bootmakers in civil life. The Metropolitan Police Force are a splendid body of men, but they cannot run fast. The dress of a sailor of the Royal Navy contrasts very favourably with that of the soldier in regard to ease and freedom of movement. As to weight-carrying, the recruit or young soldier wants to have his kit carried for him on a long march until his body and limbs become developed and he has been fitted by a gradual process of training to carry it for himself. The return march of the troops was a much more satisfactory performance. To provide a suitable dress for different seasons of the year is, of course, a matter of difficulty and grave expense where a large army is concerned.

OVER-ZEAL.

MR. HANKIN, the official bacteriologist at Agra, is said to have had a narrow escape from death from cholera through being too confident in the powers of his disinfecting drugs. Mr. Hankin has been for some time engaged in the special investigation of cholera, and has devoted a great deal of attention to the disinfection of the drinking water in the wells, and after various experiments finds potassium permanganate to give the best results. In many cases after the well water had been thus disinfected cholera ceased in the immediate neighbourhood supplied by the well. In one instance, however, Mr. Hankin, anxious to impress the natives with the efficacy of these measures, is said to have himself drunk some water from the well very shortly after the potassium permanganate had been put in. The result was, as might have been expected, an attack of cholera, which, however, proved to be a mild one and terminated favourably. While Mr. Hankin deserves all thanks for his important researches and his devotion to his work, we cannot think that any such experiments on himself as the one above described are justifiable. The world cannot afford to lose valuable lives by experiments which can only prove dangerous to the operator and are not in any way directly the means of saving other lives.

SCARLET FEVER IN BIRMINGHAM.

THE sanitary officials of Birmingham have for some time past been kept actively engaged in their efforts to cope with an ever-increasing epidemic prevalence of scarlet fever in that city. It is true that the prevailing malady is of a mild character, the deaths registered in the three last weeks of August having been only 3, 4, and 5 respectively, and only a single death was registered in the first week of the present month; but the cases newly arising from week to week have been in increasing amount, and August has witnessed a larger total of attacks than did July, though the deaths have been almost identical in number. Great encouragement is felt in the much more frequent recognition of hospital treatment on the part of parents, as beneficial in comparison with home treatment of patients, the percentage of removals to attacks being some 80, so that the hospital register can now be looked upon as containing by far the larger proportion of total cases coming to light. And it is just this register which goes to show the rapid growth of scarlet fever this year in Birmingham over its incidence in 1894. Twelve months ago the highest number in hospital was 239, and the number gradually sank until in February last it had declined to 170, rising again to 200 in the succeeding two months, with a further increase to 240 by the end of May and up to 260 in June. In July the cases coming to the knowledge of the health department showed the disease to be rife in all parts of the city, patients being received into hospital from all quarters, and the beds occupied numbering 340, whilst towards the close of last month the cases under treatment were as many as 460 in number, being nearly double the total of any day in August of last year. The sanitary authority has not, however, lost heart, and Dr. A. Hill is looking hopefully for a steady decline now that what he regards as the maximum epidemicity has been reached. We sincerely trust it will shortly be manifest that the worst is over.

THE ADULTERATION ACTS.

A NICE point of law arose last week in a case in which a provision dealer was summoned before the Wigan County Justices charged with two offences under the Margarine Act, 1887—viz., that he had exposed margarine for sale without a distinguishing label being attached to it, and also that he had sold it as butter. The defendant pleaded guilty. An inspector employed by the Royal Lancashire Agricultural Society visited the defendant's shop and saw *round pounds* of butter exposed for sale in the window. He purchased a pound and then told the defendant who he was, whereupon the defendant admitted it was margarine. The inspector did not tell the defendant he was going to have it analysed, and did not offer him a portion in order that he might have it analysed because he admitted it was margarine. The assistant magistrate's clerk advised that owing to this omission the bench could not deal with the case. The prosecuting solicitor said as the defendant had pleaded guilty the bench had power to convict, but this was overruled. Here we have a case in which the defendant pleads guilty, and yet escapes the penalty because the inspector omits what appears to be a technical compliance with the provisions of the Act.

MADAGASCAR.

THE news brought each succeeding day from Madagascar regarding the health and sanitary state of the French expeditionary force in that country is more and more unsatisfactory. The engineering corps and those of the troops who have been engaged in road-making have suffered greatly—as we had indicated they probably would—from the effects of malarial disease due to soil emanations and from exposure to the heat and climatic influences. About 40 per cent. of the force are said to be inefficient or in hospital suffering from fever, dysentery, and other diseases, and there has been a heavy list of mortality and invaliding. The hospitals must, indeed, be full to overcrowding according to the descriptions of them afforded by correspondents. The low-lying districts are especially hot and unhealthy, and of the soldiers still in the field it is stated that a large number of them are suffering from malarial anæmia, footsoreness, and swollen feet. The fighting casualties have been insignificant; the real enemies have been heat and malaria and the difficulties of transport and food supplies for the force. The special correspondent of the *Débats* gives a somewhat gloomy description of the expedition. The march from Mojanga to Suberbieville was across a very hot and unhealthy country, and a great deal of the sickness is ascribed to it and to the construction of a road for the waggon transport. This correspondent also finds

fault with the hospital arrangements and insufficient number of medical officers and sick attendants, but this seems to be mainly accounted for by the amount of sickness among them. The French troops are generally too young for the work and unacclimatised. A feeling of discontent prevails in the expeditionary force, and the news from Madagascar is likely to cause great disappointment in France and prove a source of trouble for its Government. It seems surprising that the French War Office were not better informed as to the climatic and local conditions that would have to be encountered in Madagascar before undertaking the expedition. It is impossible not to have some misgivings as to the future, but we sincerely hope to hear better news when the force succeeds in reaching Antananarivo.

FACIAL HEMIATROPHY AFTER INFLUENZA.

A CURIOUS case of facial atrophy is briefly related in the *Neurologisches Centralblatt* in an abstract of a paper by Dr. Berend in *Orvosi Hetilap*. A girl aged twelve suffered from a severe attack of influenza two years ago, and a few weeks later had sharp pains in the face. The parents soon noticed a wasting of one side, and when she came under observation it was found that the hair on the left side of the head was thinner and the skin wasted as low as the corner of the mouth. Below this level the opposite side of the face was affected in a similar way. The changes were most marked in the skin and the subcutaneous tissues, but the bones also showed distinct changes. Dr. Berend refers the changes to an affection of the first and second divisions of the nerve on the left side, and to a similar affection of the third branch on the right side.

MICROBES ON MONEY.

THE *Revue d'Hygiène* publishes an interesting account of some experiments made at the bacteriological laboratory of the Military Hospital of Dey at Algiers. Dr. H. Vincent explains that money is specially liable to be contaminated by saliva, pus, pathological secretions, dust, and the morbid germs that may be found in dirty pockets or on dirty fingers. He does not think, however, that evidence of this danger can be easily obtained by placing dirty coins in culture broth. The investigations at the Dey Hospital were conducted in a different manner. A piece of cotton-wool about the size of a pea was dipped in water and sterilised. Pieces of wool thus prepared were seized with pincers that had been held in a flame and were gently passed over the coin to be examined. The pieces of wool were then placed in culture broths and kept in a temperature of 35° C. The product, which soon contained various micro-organisms, was sown anew in gelatine plaques so as to isolate the bacteria. In other cases it was inoculated in doses varying from one to five cubic centimetres in the blood or under the skin of rabbits, guinea-pigs, and white rats. A lengthy description of the methods employed and the results obtained is given. The number of bacteria found on the surface of coins varied very considerably—on silver and gold from 460 to 3500, and on copper a still larger number. To destroy many of the non-pathogenic microbes some experiments were made at a temperature of 37° C. The injection of mixed cultures from coins only produced death or serious results in about one out of every ten inoculations. Death was sometimes rapid, with symptoms of acute septicæmia. In one case tuberculosis was communicated to a rabbit by a piece of wool which had been passed over a ten-centime copper coin. In another case there was slight tetanus. There can be no doubt that germs of disease are often to be found on the surface of coins—notably the microbe of suppuration, the staphylococcus pyogenes, and the streptococcus. Nevertheless, as the experiments were repeated they proved that there were fewer infectious germs than had been anticipated. Another series of experiments was then made which demonstrated that though coins are often contaminated they possess in themselves antiseptic qualities which greatly reduce the risk. If pathogenic germs are placed on coins it is seen that they do not live long. The time varies according to the temperature and the nature of the metal. In a cold temperature the germs of typhoid fever and the Friedlander bacillus are killed in eighteen hours if placed on a sterilised copper or silver coin; and the pyocyanic bacillus and that of green diarrhœa in twenty-four hours. At a temperature of a pocket, about 36° C., the bacilli of typhoid fever, of blue pus, of diphtheria, and the streptococcus are destroyed in less than six hours. The bacilli of diphtheria are among the most tenacious, and in cold will live three days on silver and six days on bronze. Gold, of course, is less antiseptic, and the Eberth bacilli will live five days and that of diphtheria six days on a gold coin in a temperature of 20° C. At a damp temperature of 36° C. the destruction of the microbes is very rapid, and that is the temperature which often prevails in the pockets of clothes. It is some consolation to find that the danger, when it exists, is not one of long duration; still, there is time enough, even in six hours, for much mischief to be accomplished. It is, therefore, the moral duty of all who are suffering from infectious disease to refrain from handling pieces of money.

THE BRITISH DENTAL ASSOCIATION.

THE annual gathering of this association was held at Edinburgh on Aug. 29th, 30th, and 31st, and proved to be most successful. The new President, Mr. Bowman Macleod, delivered a most interesting address and strongly advocated the establishment at our leading institutions of a chair in Clinical Dental Surgery. A large number of papers were contributed, that by Dr. Frederic Hewitt on Chloroform in Dental Surgery creating most interest. The writer's facts were clearly put, and his statistics of the number of deaths under anæsthetics in dental surgery tended to show that the death-rate runs a long way the highest in Scotland, where the use of chloroform is so prevalent. The paper gave rise to a valuable discussion, Dr. W. H. Williamson trying ably to defend the administration of chloroform in Scotland. The demonstrations were given at the Edinburgh Dental School and proved as attractive as usual. At the Microscopical Section several communications and papers were brought forward, including a most valuable one from Professor Hunter on the subject of photomicrography, and the system shown and advocated produces the very best results without the aid of the expensive objectives that are in general use. The association will hold their meeting next year in London during the month of August.

FILTERS IN INDIA.

WE have for a long time past persistently urged on the Government of India the importance of adopting the Pasteur-Chamberland or the Berkefeldt filter in substitution of that in ordinary barrack-room use in Indian cantonments, which is not only inefficacious, but under certain circumstances a source of positive danger to the troops. Mr. Hankin, the Government Bacteriologist of the North-Western Provinces of India, in addition to other excellent work which he has done for his own Government and that of India generally, has shown as the result of his experiments and observations that the filter in ordinary use allows the passage of starch grains, the diameter of which, it is needless to add, far exceeds that of the comma bacillus or other micro-organisms. But experiment shows that some of the cholera microbes nevertheless remain behind in the filter, where they go on breeding. In

the case of the late outbreak of cholera in the East Lancashire Regiment at Lucknow, for example, it was proved to the satisfaction of the commission of investigation into its causes that the exacerbation of the outbreak among the troops who had been moved into camp was attributable to infected filters having been removed from the cholera-infected barracks to camp. Mr. Hankin states that under certain conditions traces of the cholera microbe will even pass through the Pasteur-Chamberland or Berkefeldt filters, although he has reasons for thinking that this will not detract from their practical utility. Why should not experimental trials be made of these filters at several selected stations in India where enteric fever is unduly prevalent? It should not, surely, be difficult to devise a number of experimental trials in order to determine whether their employment was followed or not by a cessation or diminished prevalence of the disease.

THE LATE MR. DURHAM.

WE have received the following appeal from the Treasurer of Guy's Hospital:—"Dear Sir,—We are sure that the friends of the late Mr. Arthur Edward Durham would desire that steps should be taken to perpetuate his memory in association with Guy's Hospital, to which he devoted the best years of his life and work. The particular form which such a memorial should take has been a matter of careful consideration, and with the full assent and approval of his family it has been decided that at the present time, when the finances of the hospital are so seriously embarrassed, the best tribute which can be paid to his memory is the endowment in perpetuity of two beds, one in each of his old wards, Lazarus and Martha, to be called the Arthur Durham Beds. For this purpose a sum of £2000 will be requisite. In appealing to his old friends and admirers for liberal subscriptions towards this worthy object it is needless for us to dwell upon the manifold services Mr. Durham rendered to Guy's as a teacher and surgeon of the first rank, upon the unaffected kindness of his disposition, and upon those genial traits of character which endeared him to all who had the privilege of knowing him. Contributions should be paid to Mr. C. H. Wells, at the Office of the Medical School, and they will be acknowledged from time to time in the *Guy's Hospital Gazette*. In the belief that many will be glad to possess such a memento, it is proposed to present subscribers of one guinea and upwards with a platinotype enlargement of what is regarded as the most life-like photograph of Mr. Durham, in a form suitable for framing.—We are, dear Sir, yours faithfully, E. H. LUSHINGTON, Treasurer; P. H. PYE-SMITH, Senior Physician; H. G. HOWSE, Senior Surgeon."

THE BORDEAUX CONGRESSES.

IF only congresses and contentment were always united the city of Bordeaux should be simply brimming over with complacency. Taking advantage of the fact that an exhibition was in progress, the representatives of no fewer than seven erudite associations decided to hold their annual reunions in the sunny capital of South-western France; and the consequence was that during the early days of August the banks of the Garonne were thronged with learned men of well-nigh every European nationality. As Dr. E. Masse has it in his weekly bulletin:[1]—"Our town of Bordeaux can never congratulate itself sufficiently on having had the honour of affording hospitality to such a large number of *savants*, of physicians, and of surgeons, who came together from all the points of the universe—Russians, Belgians, Spaniards, Portuguese, Swiss, Italians, Bulgarians, Roumanians, Greeks, all have comported themselves with honour at the diverse congresses." England alone seems to have been unrepresented; English names are conspicuous by their absence from the various records of the proceedings, and yet the subjects dealt with were both opportune and interesting, as may be seen by the following list of titles: Geography, Protection of Infant Life, the Latin Tongues, Alienism and Neurology, the Advancement of Science, Medicine, Gynæcology, and Obstetrics. Inasmuch as four, if not five, of these congresses were concerned with matters appertaining to the science and art of medicine the absence of representatives belonging to this country is much to be regretted; but doubtless the abstention was owing to the coincidence of the British Medical Association meeting in London. Be this as it may, there can be no question that a holiday amidst the vines of Gironde would have been highly enjoyable. Notwithstanding the plethora of congresses the entire time of the 3000 visitors was by no means exclusively devoted to business. On the contrary, the majority of them contrived to find ample leisure for amusement, and the way a lengthy programme of fêtes, banquets, and excursions was done justice to clearly shows that the Continental disciples of science know how to give effect to the old Horatian maxim by a judicious admixture of the useful and the agreeable.

[1] Gazette Hebdomadaire des Sciences Médicales, Aug. 11th.

OCCUPATIONS FOR WOMEN.

THE *Woman's Signal* notices that in one portion of the daily press women's energies are directed towards weddings and in another towards burials. Our contemporary then says: "Ought not THE LANCET to follow with an intermediary suggestion?" As far as we can see there is no need for our interference. The intermediary state between weddings and funerals is birth, and women can and do attend at this function only too frequently as it is. We always fail to see the force of the constant cry of new occupations for women—there is nothing they do not do nowadays from literature to massage. We ourselves have seen in Armenia a woman ploughing—we mean drawing a plough,—the remainder of the team being made up of a donkey and a camel. It should be mentioned that the woman was not an Armenian, but a Tatar, and although this occupation may appear unfeminine it would seem far more hygienic and no less fitting an employment for women than much of our factory labour. To come nearer home, however, we know of a metropolitan mortuary where the assistant at post-mortem examinations is a woman, and, as far as handicraft goes, she is a most excellent and handy helper. If this employment is open to women, surely the emancipation of the sex is complete. While on the subject of post-mortem examinations in public mortuaries we wish to call attention to the fact, as we believe, that the medical man making the examination has to provide his own post-mortem instruments. This, it seems to us, is wrong. Every vestry should provide a set of its own for use in cases which are examined at the mortuary. They are not expensive and could be easily kept in order by the mortuary keeper.

UNIVERSITY STATISTICS IN SWITZERLAND.

"A HOLIDAY CONTRIBUTOR" writes under date Zürich, Aug. 28th:—"Following up your recent annotation giving the university statistics of Switzerland for the winter *semestre* of 1894–95, I have been favoured with the official return of the same for the summer *semestre* of 1895. The seven Swiss seats of learning during this half-year have numbered 3108 students, of whom 47 were ladies, and 634 amateurs, of whom 144 were ladies. The total is 3742 (191 ladies), or 71 (9 ladies) fewer than the preceding half-year. The distribution of students and amateurs into faculties is as follows: Theology, 440 (274 Protestants and 166 Catholics); law, 648 (5 ladies all at Zürich); medicine,

938 (200 ladies); and philosophy (science and literature), 1656 (286 ladies). Of the 3108 students properly so called 1774 are Swiss (42 ladies); Germany furnishes 504 students 51 ladies); Russia, 348 (199 ladies); Bulgaria, 131 (10) ladies); France, 56 (2 ladies); Austria, 53 (9 ladies); Roumania, 49 (9 ladies); Turkey, 39 (8 ladies); Italy, 36; and North America, 32 (7 ladies). The University of Zürich counts the greatest number of students properly so called (673 of whom 125 are ladies); Geneva comes next with 665 students (117 ladies). If, however, to the students we add the amateurs, Geneva leads the van with 824, of whom 176 are ladies; Zürich follows with 752 students and amateurs (158 ladies); Berne, 649 (96 ladies); Bâle, 609 (5 ladies); Lausanne, 493 (44 ladies); Fribourg, 308; and, finally, Neuchâtel, 107 (12 ladies). Fribourg and Bâle, as in the previous half-year, count the greatest number of theological students (161 in the former and 81 in the latter). Lausanne numbers most in the faculty of law (her 125 have risen to 161), while Berne falls from 150 to 147. Medicine always counts most students at Zürich (331) and at Geneva (274). The latter has 376 students and amateurs in science and literature and Zürich 347."

INTOXICATION BY CHLORALOSE.

DR. HERZEN describes a case of this kind in the *Revue Médicale de la Suisse Romande*. The patient was suffering from phthisis and twenty centigrammes of chloralose were administered. An hour later he became collapsed—pale, unconscious, covered with sweat, and with a flickering and very rapid pulse. Every fifteen or thirty seconds he had convulsive movements of the extremities and of the muscles of mastication. Ether was administered subcutaneously and after two hours the contractions ceased, and in four hours the patient had recovered. Dr. Herzen says that his patient was used to morphia and chloral, and the very profound effects produced by a medium dose of the drug suggest that a considerable amount of care should be used in its administration.

THE DIFFUSION OF SMALL-POX.

THE deaths from small-pox in London in the last week of August were 4 in number, and occurred in as many different sanitary areas in the East-end. During August 14 deaths were ascribed to this disease in London, as compared with 6 in the previous month. Last week the deaths registered were 5 in number, 2 belonging to Camberwell and 1 each to Islington, Whitechapel, and Plumstead sanitary areas. Of the 9 deaths thus occurring in the last fortnight 3 were in vaccinated adults, 2 in unvaccinated, and 1 in vaccinated young children, and concerning the remaining 3 (all of whom were adults) there is no statement as to their vaccination. The new attacks recorded in the fortnight were 37 and 36 respectively, and the admissions to hospital 36 and 25. As before, the southern and eastern groups of districts suffered in much greater proportion than the western and northern sections of the metropolis. The cases remaining under treatment in hospital had been gradually increasing from 19 on June 15th to 357 on August 24th; but on Sunday, Sept. 1st, a decline to 333 was shown, 196 cases being accommodated at Gore Farm, 135 on the hospital ships, and 2 at the South Wharf. On Saturday last a further decline to 328 was recorded. A few attacks are stated to have occurred recently in West Ham. In the Midlands an outbreak, limited at present to the members of one family, has been discovered at Loughborough, and two of the patients have been removed to hospital; the third case, though the small-pox was apparently mild, proved fatal from syncope. In Boston workhouse a tramp fell ill with small-pox three weeks ago, and this case has been followed by 4 others in that institution; all of them were removed to the fever hospital, and upwards of a hundred inmates of the workhouse were vaccinated. In the last week of August a fatal case was registered in Preston, and another in Oldham, in which latter town some half-dozen attacks are reported to have come to light. Last week there was another death in Oldham, and one in Manchester, where 5 attacks were heard of. In Dublin a continued decline was manifested in the week ended Aug. 24th, only 3 admissions to hospital being reported, against 10 discharges, and in the succeeding week 3 admissions, against 6 discharges, only 15 acute cases being left in hospital on the last day of August, as compared with 28 three weeks earlier.

POISONOUS LITERATURE AND ITS ANTIDOTES.

SOME day, perhaps, the law may interfere directly with the publication and sale of sensational literature; as yet the prohibitory line has not been drawn or even described with the accuracy required for legal definition. We may, at all events, be thankful that some countenance is given by the Statute-book to the view that sheer immorality of expression is incompatible with social order. In times when the frank and open condemnation of indecent practices is treated by many as a mere prudery, a Puritanic affectation, this is something to be thankful for. We would fain hope that those legal authorities who in this country represent the *censor morum* will before long find means of analysing the penny dreadful, and of including it within their poisons' act. As an aid in the same work, though far too little used, we have already the great force of education. This weapon, indeed, has a double edge. By conferring the power to read it has opened a road to every mind for the widely distributed germs of morbid fancy. It is bound by public duty to provide a remedy, and we have in the meantime no agent so reliable as it may easily become for the purpose of mental disinfection and invigoration. It is to its powerful influence, whether employed by a parent or a teacher—and a duty is incumbent upon both in this connexion—that we must chiefly trust in order to attain this purpose. To forbid what is pernicious is not sufficient. Parents and teachers alike must go further and seek frequent occasion out of school or in school not only to expose the idle and mischievous tendency of the cheap horrors of publication, but to substitute for these equally light and attractive but wholesome reading. There is plenty of such material in circulation, but much of the best is still somewhat expensive. We would only add a hope that more of it may be brought out in penny editions.

HOW FEVER IS SPREAD.

IT is vain to expect that all our precautions to arrest the spread of infection will be effectual unless they be assisted by the loyal coöperation of private persons. The importance of this fact cannot be too strongly insisted on. In a matter of this kind our neighbour's interest is our own, and if it is not so regarded the effect of our selfish unconcern may at any time recoil upon ourselves. No rightly thinking person can, therefore, find fault with a decision given last week in the Thames Police-court against a woman who in removing from her home conveyed her son (who was suffering from scarlet fever) in a tramcar. Such cases are not known to be of frequent occurrence, though we suspect that a certain unknown proportion of them successfully run the gauntlet and escape detection. The observant care of medical men, of sanitary inspectors, and of the non-professional but most deeply interested community at large cannot be employed with too much zeal in this direction. It appears to us, moreover, that less than enough is now done to render the transit of infected persons convenient and safe. When we come to look into the subject there is practically only one means to this end which is of general utility—namely, the hospital ambulance. Obviously, too, this method

is itself seriously hampered by restrictions. It is part of the service of a special institution, and is not readily available in emergencies for which that service is not directly responsible. A few cabs are kept by some owners for ambulance purposes, but so few that their existence might almost be ignored. Railway companies make no special provision for the fever-stricken. Yet everyone can appreciate the dilemma which confronts an invalid so smitten and his friends when illness overtakes him in a seaside or country lodging, with home accessible if only he were not infectious, and perhaps no hospital either near or suitable to his condition. The whole question is worthy of consideration by those who have to do with organising our means of transit, and if a satisfactory solution could be arrived at the working efficiency of the Public Health Act would be thereby increased.

ALLEGED CHOLERA RECURRENCES.

WE are glad to state that, although there has been another death of an adult from "diarrhœa" in Great Grimsby and more than one suspicious attack, there is as yet no bacteriological evidence of a recrudescence of cholera, and we hope there will be none. Great Grimsby has by no means a clean record as to autumnal diarrhœa; but it is unusual to find adults succumbing to even severe attacks of that disease. We would therefore urge on the town council the utmost vigilance at this critical season, especially in view of the history of Great Grimsby during the present European cholera epidemic.

DIPHTHERIA IN LONDON.

THE decided diminution in the number of deaths from diphtheria in London, shown by the Registrar-General's returns to have occurred in the third complete week of August, was, unhappily, not maintained in either of the last two weeks, the number of deaths registered in the week ended Saturday, Aug. 31st, having risen from 24 to 40, a total which was 11 in excess of the corrected average for the corresponding week of the preceding decennial period, whilst in the week ended Sept. 7th the registered deaths were 38—that is, 9 above the average. The patients remaining under treatment in hospital on Saturday last amounted to 662, and have not diminished in number. The preponderance of deaths among children is once more manifested, and with the recent reopening of schools in London it seems hardly likely that a decline of the disease will now take place. In the two months just ended there were in the nine registration weeks 416 deaths from diphtheria in London alone, yielding a weekly average of 46; and some slight consolation may be derived from the fact that this average was in excess of the deaths recorded during the last half of August as well as during the first week of the present month. In West Ham registration district, which is extra-metropolitan, 6 deaths occurred in the concluding week of August, and 9 during last week.

THE minutes of evidence which the Select Committee on Food Products Adulteration have been able so far to take are contained in a Blue-book published this week. The volume consists of 462 pages and deals for the most part with that very important and perhaps most interesting section of the inquiry—viz., the evidence and views of traders and manufacturers. Even in a rapid glance through the numbered paragraphs we have alighted upon not a few statements of the "startling revelation" order, but these and other points we propose to discuss at some length in a future issue.

Two deaths from hydrophobia have been recently reported, one from Rochdale, and the other from Preston.

WE regret to say that Sir Douglas Galton, during his delivery of the presidential address (referred to in our leading columns) before the British Association at Ipswich, was seized with sudden illness, which prevented him from reading the concluding portions of the address. We are glad to be able to state that he recovered sufficiently to acknowledge a vote of thanks.

WE regret to announce that Dr. Ruffer will not be able to deliver the course of lectures, as advertised, at the British Institute of Preventive Medicine, as he is suffering from an attack of diphtheritic paralysis and will not be able to do any work for some time.

THE fortune of the late Mr. Charles Mitchell, LL.D., is estimated at £1,800,000, and it is stated authoritatively that no further public benefactions are announced. Owing to his death the Aberdeen celebrations have been postponed till December.

Pharmacology and Therapeutics.

YEAST IN DIABETES.

DR. CASSAËT finds that a couple of ounces of yeast taken at meal-times are very useful in diabetes. At first the yeast tends to cause eructations and even diarrhœa, but after a few days the system tolerates it perfectly well, and the patient finds his appetite improved, his pains less, and his general condition better than before commencing the yeast. Even in a case where phthisis was present and there had been considerable loss of weight there was a gain of several pounds at the end of a fortnight, and the dynamometer showed an increase in muscular power. The amount of sugar in the urine decreased, in one case from 32 to 7½ parts in 1000. This yeast treatment of diabetes is not new—indeed, there are few remedies which have not been at one time or another employed in this affection. Dr. Herepath recommended it as long ago as 1854, and Dr. Oppolzer again employed it in 1868.

BROMIDE OF LITHIUM IN BRIGHT'S DISEASE.

A Russian physician, Dr. Polakoff, has found bromide of lithium of great service in Bright's disease, both in acute and chronic forms. He has employed it in twenty-two cases and finds that it acts as a certain and powerful diuretic, diminishing the quantity of albumin in the urine and frequently causing the œdema to disappear entirely. The patients were not kept on milk diet, but were allowed to eat ordinary food, and no other drugs were given at the same time nor any baths. The effect appeared to be more marked in acute than in chronic nephritis. The albuminuria began to decrease after a short period of treatment, on the thirteenth day at the latest, the diminution continued up to a certain point, and then the amount of albumin became stationary; but if the salt was stopped for a few days and then recommenced it was found possible to obtain a further decrease in the albumin. In one of the cases—that of a woman with puerperal convulsions—the attacks, which had resisted baths, morphia, and even chloroform, disappeared after a single day's treatment with bromide of lithium. As a rule the drug was well borne, but in two of the patients it produced nausea and vomiting and had to be stopped for a time. In one case of acute nephritis, too, hæmaturia was produced, which, however, rapidly ceased on the drug being discontinued and some tannin being given. The mixture ordered consisted of 1¼ to 2 parts of bromide of lithium and 4 parts of bicarbonate of soda in 240 parts of distilled water flavoured with peppermint. Of this three or four tablespoonfuls were ordered per diem.

SUCCINATE OF AMMONIA IN LABOUR.

According to Dr. Remy of Nancy, succinate of ammonia is very useful in spasmodic cramp-like pains and in partial contraction of the internal os during parturition. In a case where this contraction occurred during the third stage of labour, rendering it impossible to deliver the placenta, a couple of doses of the above-named remedy relaxed the spasmodic condition and enabled the after-birth to come

away without difficulty. The mixture recommended is a simple solution of the succinate in 140 times its weight of water, a tablespoonful dose being given every quarter of an hour until relief is obtained.

PRIZEMEN AND MEDALLISTS AT THE METROPOLITAN MEDICAL SCHOOLS.

St. Bartholomew's Hospital and College. — Lawrence Scholarship and Gold Medal: J. K. Murphy. Brackenbury Medical Scholarship: S. Gillies. Brackenbury Surgical Scholarship: L. Giles. Matthews Duncan Medal and Prize: T. S. Pigg. Senior Scholarship in Anatomy, Physiology, and Chemistry: E. C. Morland. Open Scholarships in Science, Chemistry, and Physics: A. L. Ormerod. Biology and Physiology: W. L. Brown; Junior, F. C. Borrow and S. R. Scott (equal). Preliminary Scientific Exhibition: L. A. Walker. Jeaffreson Exhibition: C. A. S. Ridout. Kirkes Scholarship and Gold Medal: not awarded. Bentley Prize (medical): E. W. Groves. Hichens Prize: not awarded. Wix Prize: C. C. I. Turnbull. Harvey Prize: H. Davies. Sir George Burrow's Prize: not awarded. Skynner Prize: T. J. Horder. Practical Anatomy, Junior (Treasurer's Prize): F. C. Borrow, W. H. Leonard, and S. R. Scott (equal), H. Burrows, A. R. Baker, C. S. Frost, H. S. Thomas, E. Wethered, C. R. Brown, and L. A. Walker. Practical Anatomy, Senior (Foster Prize): R. Raines (Prize), E. C. Morland, L. A. Baiss, and G. E. Gask (equal), A. O. B. Wroughton, W. T. Rowe, S. A. Millen, H. E. Waller, H. D. Everington, and F. Horridge. Shuter Scholarship: not awarded. Junior Scholarships: (1) S. R. Scott, (2) F. C. Borrow, and H. G. Wood-Hill (equal). Junior Scholarship in Chemistry, 1894: H. A. Colwell and E. C. Morland (equal).

Charing Cross Hospital Medical School.—Pereira Prize: F. P. Jones. Governors' Clinical Gold Medal: D. C. Rees. Anatomy Prize (Junior): C. B. Wagstaff. Biology Prize: C. B. Wagstaff. Chemistry Prize: J. E. Humphreys. Physiology Prize (Senior): W. E. Morgan. Physiology Prize (Junior): W. H. Unwin. Practical Physiology Prize: W. E. Morgan. Medicine Prize: W. C. Bosanquet. Surgery Prize: C. Hudson. Practical Medicine Prize: W. C. Bosanquet.

Guy's Hospital.—The Treasurer's Gold Medal for Clinical Medicine: Francis J. Steward. The Treasurer's Gold Medal for Clinical Surgery: Francis J. Steward. Gurney Hoare Prize for Clinical Study: Arthur H. Leete. Beaney Prize for Pathology: Francis J. Steward. Sands Cox Scholarship for Physiology: George E. Richmond, prize £15. Michael Harris Prize for Anatomy: Frederick E. Walker, prize £10. The Arthur Durham Prizes for Dissection—First Year's Students: John T. M. M'Dougall, prize £5; Second Year's Students: Frederick E. Walker, prize £15. The Hilton Prize for Dissection: John O. Garland. Third Year's Prizes: Robert P. Rowlands, prize £25; Robert Howard, second prize, £10. Second Year's Prizes (1894): Edmund I. Spriggs and Robert P. Rowlands (equal). Dental Student (1895): Joseph L. Payne, prize £15. First Year's Prizes (1894): Philip Turner, first prize, £50; George E. Richmond, second prize, £25. Dental Students (1895): Kenneth W. Goadby and Norris Snell (equal), £5 each. Practical Dentistry Prize: Edward C. Dimock, prize £10. Open Scholarships in Arts: Arthur Pearson, £100; George William Hare, £50. Dental Student: Guy Chatterton, £30. Open Scholarships in Science: Thomas F. Rutter, £150; John T. Dunston, £60.

St. George's Hospital.—Brackenbury Prizes (Medicine): Sidney Smith. (Surgery): F. Morley. Treasurer's Prize (the gift of his Grace the Duke of Westminster): Walwyn Thomas. Certificate of Honour: E. T. Fison. Brodie Prize: R. A. Cooper. Henry Charles Johnson Prize (Anatomy): H. L. Barwell. Pollock Prize (Physiology): R. E. Drake-Brockman. First Year's General Proficiency Prize: T. M. Neatby. Honorary Certificates: F. Paul, H. G. Drake-Brockman, A. Morley, and Lawrence Pick. Second Year's General Proficiency Prize: H. L. Barwell. Third Year's General Proficiency (Honorary Certificates): H. M. Vernon, J. W. Watson, and H. P. Foulerton. William Brown Exhibition of £100 per annum, tenable for two years: Walwyn Thomas. Entrance Scholarship (October, 1894) of £145: T. M. Neatby. University Scholarships of £85: J. T. Watson, B.A., St. Peter's College, Cambridge, and J. E. Kirk, B.A., Christ's College, Cambridge.

King's College.—Warneford Scholarship: Class I., W. L. Stuart and A. T. Marshall for three years; A. C. Williams for two years. Class II., M. S. Mayou. Rabbeth Scholarship: F. C. Carle and W. L. Stuart (equal). Senior Scholarship: J. M'D. Troup and G. H. Lansdown (equal). Second Year Scholarship: T. H. Gardner. Junior Scholarship: W. H. M'Mullen, C. A. Sprawson, and A. Brown. Sambrooke Exhibitions: C. A. Sprawson and A. Brown. Clothworkers' Exhibition: R. W. H. Bailey and C. F. Mott. Warneford Prize: R. P. Williams. Divinity: Barry Prize, A. T. Marshall; prize, A. D. Reid. Anatomy: J. C. Briscoe. Physiology: J. C Briscoe. Chemistry: J. C. Briscoe. Botany: R. H. Gompertz. Medicine: J. M'D. Troup. Clinical Surgery: A. H. Burt. Surgery: G. H. Lansdown. Tanner Prize: G. H. Lansdown and W. B. Bell (equal). Forensic Medicine: R. P. Williams. Obstetric Medicine: W. B. Bell. Materia Medica: A. Brown. Todd Clinical (Medical): A. H. Burt. Pathological Anatomy: J. M. Schaub. Hygiene: J. M. Schaub.

The London Hospital Medical College.—Price Scholarship in Science, £120: W. R. Dunstan. Price Scholarship in Anatomy and Physiology, £60: H. W. L. Barlow. Entrance Science Scholarships: £60, H. D. Pollard; £35, R. Howard. Buxton Scholarships: Arts, £30, T. Chetwood; £20, J. S. Dudding. Clinical Medicine: £20 scholarship, Elgar Down. Clinical Surgery: £20 scholarship, H. F. Tod. Clinical Obstetrics: £20 scholarship, E. Maynard. Duckworth Nelson Prize: £10, Elgar Down. Letheby Prizes: Senior, £20, L. C. Lander; Junior, £10, G. S. Ward. Sutton Scholarship, £20: E. Mallam. Anatomy and Physiology: £25 scholarship, I. W. W. Hunter and T. S. Novis (equal). Anatomy and Biology: £20 scholarship, A. F. Tredgold. Dressers' Prizes: C. Pike, C. W. Chaplin, J. M. Garman, and A. Orme (equal); I. W. W. Hunter, H. G. Frankling, S. Gaster, and G. H. Herbert (equal).

St. Mary's Hospital.—Entrance Scholarships in Natural Science: 100 guineas, J. J. Pierce: 50 guineas, C. W. Buckley; and 50 guineas, W. A. Trumper. University Scholarships of 50 guineas: A. A. Bathe, M.A., and A. Graham Butler, B.A. Exhibition in Natural Science: 25 guineas, H. J. Van Praagh. Summer Session, 1894.—Prizes. Third Year: Practical Surgery, A. Stanley. Second Year: Midwifery, W. Ashdowne; Medical Jurisprudence, J. E. P. Davies. First Year: Materia Medica, A. Howell; Practical Chemistry, A. F. Hayden; Chemistry, H. T. Mann. Winter Session, 1894-95.—Third Year: Medicine, A. W. Sanders; Surgery, A. W. Sanders; Pathology, R. H. Steen, B.A., and A. H. L. Newstead, B.A. Second Year: Physiology, F. S. Dawe; Histology, R. C. Leaning. First Year: Anatomy, A. Von Rosen; Physiology, W. B. Watson. Third and Fourth Years: Prize in Ophthalmology of £10 10*s.*, R. Percy Smallwood, B.A., and Basil Pares; Prize in Dermatology of £5 5*s.*, H. H. G. Knapp, B.A., and J. O. Skevington; Clinical Surgery, 1894, R. W. Dodgson; Clinical Medicine, 1894, R. W. Dodgson. Special prizes, 1894, for general proficiency in Anatomy and Physiology (including Histology), A. Howell; for general proficiency in Medicine and Surgery (including Operative Surgery), Mr. A. Stanley; Prosectors, R. C. Leaning and S. M. Smith.

Middlesex Hospital Medical School.—Broderip Scholarships: J. C. K. Braine-Hartnell and E. D. Aubin. Hetley Clinical Prize: N. B. Harman. Governor's Prize: F. C. B. Gittings. Murray Scholarship and Medal: F. C. B. Gittings. Lyell Medal: H. P. Noble. Exhibition, Second Year: G. H. Lucas. Exhibition, First Year: A. J. Knowlton and W. A. S. Lamborn (equal). Entrance Scholarships: E. H. M'Enery and A. J. Knowlton. University: G. H. M'Cleary. Class Prizes—Medicine: E. D. Aubin. Surgery: E. D. Aubin. Practical Surgery: C. Roberts. Practical Midwifery: E. D. Aubin and E. K. Herring (equal). Anatomy: A. E. Relph. Physiology: A. E. Relph. Chemistry: W. A. S. Lamborn and C. T. Baxter. Biology: H. Hipwell. Dissections: F. H. Lawson. Practical Medicine: H. E. Wise. Pathological Anatomy: A. E. Walter. Obstetric Medicine: C. Roberts. Practical Physiology: F. F. Elwes. Pharmacology and Therapeutics: C. Roberts. Psychology: J. T. Wills. Practical Pharmacy: C. G. Pugh.

St. Thomas's Hospital.—Entrance Science Scholarships: J. Gaff, first scholarship, £150, and certificate of honour; H. R. Beale, scholarship, £60, and certificate of honour; H. Calvert, exhibition of £20 and certificate of honour. University Scholarship: W. M'Dougall, scholarship, £50,

and certificate of honour. First Year's Students': J. Gaff, the William Tite Scholarship, £27 10s., and certificate of honour; H. R. Beale, College Prize, £20, and certificate of honour; H. Calvert, College Prize, £10, and certificate of honour. Second Year's Students: H. E. Hewitt, the Musgrove Scholarship, £38 10s., and certificate of honour; R. W. C. Pierce, College Prize, £20, and certificate of honour; H. D. Singer, College Prize, £10, and certificate of honour. Third Year's Students: A. W. Sikes, College Prize, £20, and second tenure of Peacock Scholarship, and certificate of honour. Practical Medicine: F. B. Thornton, the Mead Medal founded by Mr. and Mrs. Newman Smith; P. S. Hitchens, certificate of honour. Surgery and Surgical Anatomy: B. Dyball, the Cheselden Medal, founded by the late George Vaughan; A. J. Martineau, a Bronze Medal. Pathology and Morbid Anatomy: A. L. Home, the Bristowe Medal. For General Proficiency and Good Conduct: A. J. Martineau, the Treasurer's Gold Medal.

University College, London: Faculty of Medicine.—Entrance Exhibition (£57 15s.): H. Hawker. Atchison Scholarship (£55 per annum for two years): J. H. Cook. Atkinson-Morley Scholarship (£45 per annum for three years): A. Dimsey. Cluff Memorial Prize (£15): Charles Bolton. Bruce Medal: J. H. Cook. Pathology and Morbid Anatomy (Tuke Silver Medal): Charles Bolton; (Tuke Bronze Medal): H. J. Price. Surgery (Gold Medal): J. H. Cook. Physiology (Theoretical and Practical) Senior Class (Gold Medal): Campbell Dykes; Junior Class (Silver Medal): H. Hawker. Anatomy (Senior Class) (Silver Medals): Montague Dixon and A. Martin-Leake (equal); Junior Class (Silver Medal): J. E. Simpson. Medicine (Gold Medal): J. H. Cook; Silver, A. Dimsey; H. J. Price and H. B. Shaw (equal). Practical Surgery (Erichsen Prize): H. B. Shaw. Clinical Medicine (Senior Class) (Fellowes Gold Medal): T. H. C. Stevenson; Fellowes Silver Medals: A. Dimsey, A. J. Rodocanachi, and E. W. M. Westcott (equal); Junior Class (Fellowes Silver Medal): C. Bolton. Clinical Dental Surgery (Silver Medals): C. C. Clarkson and A. Dimsey (equal).

Westminster Hospital Medical School.—Entrance Scholarships (October): G. E. Cope (£60) and S. Dodd (£40). Oxford and Cambridge Entrance Scholarship: F. R. King (£40). Entrance Scholarship (May): G. H. Auchmuty (£40). Treasurer's Prize for First Winter Subjects (prize): Lewis Cook (10 guineas). President's Prize for Second Winter Subjects (prize): E. B. Sherlock (20 guineas). Class Prize Medicine: R. H. F. Towne and F. Riley (equal). Class Prize Surgery: F. Riley. Clinical Surgery: R. H. F. Towne. Clinical Medicine: G. F. S. Genge. Bird Prize and Medal: R. H. Norman (£14). Chadwick Prize: A. J. Smith (£21). Physics: F. W. W. Dawson. Practical Chemistry: G. E. Cope. Histology: W. A. Durance. Pathology: A. E. Jerman.

London School of Medicine for Women.—Physiology (prize): Miss Leete. Biology (prize): Hon. Ella Scarlett. Anatomy first year (prize): Miss Clapham. Anatomy, second year (prize): Miss Hawker. Organic Chemistry, 1893-4 (prize): Miss Garrett Anderson. Organic Chemistry, 1894-95 (prize) Miss Hawker. Medicine (prize): Miss Despard. Surgery (prize): Miss Hull. Operative Midwifery (Prize of £5 5s. given by Mr. Wood): Miss E. G. Adams. Summer Session, 1895.—Materia Medica (prize) Miss Carr and Miss Sharman (equal). Practical Organic Chemistry (prize) Miss Iles. Practical Histology (prize): Miss Castledine. Pathology (prize) Miss Mabel Webb. Forensic Medicine (prize): Miss Hull.

The London School of Dental Surgery.—Saunders Scholar, W. H. Pidgeon; Ashs' Prize, F. J. Padgett. Winter Session, 1894-95.—Dental Mechanics: First Prize, W. H. Pidgeon; Second Prize, H. K. Jeffes. Metallurgy: First Prize, G. Fisher; Second Prize, H. K. Jeffes. Operative Dental Surgery: First Prize, W. H. Pidgeon; Second Prize, W. Marston. Summer Session, 1895.—Dental Anatomy: First Prize, H. Dunlop. Dental Surgery: First Prize, F. J. Padgett; Second Prize, H. Dunlop. Students' Society Prize: F. J. Padgett and H. W. Turner.

PROFESSOR LIONEL BEALE, F.R.S., F.R.C.P.Lond., proposes to give a lecture on the Foundation of Medical Science, introductory to his part of the course on the Principles and Practice of Medicine, in King's College, London, on Friday, Oct. 4th, at 4 P.M.

THE BRITISH DENTAL ASSOCIATION IN EDINBURGH.

THE annual meeting of the British Dental Association was held in Edinburgh on Aug. 29th, 30th, and 31st. The meetings were held in the University, the necessary rooms being willingly granted for the purpose. There was a large display by various firms of apparatus and materials used in dental work, these being accommodated in the examination hall and in the practical zoology class-room. The exhibits were tastefully displayed and attracted much attention. The proceedings commenced with a meeting of the representative board, which sat beyond its advertised time and thus delayed for some time the general meeting, which was advertised for 10.30 A.M.

In the absence of Mr. C. S. TOMES (London), the President of the Association, the chair was occupied by Mr. J. SMITH TURNER (London), vice-president. He referred to the family bereavement which had prevented Mr. Tomes from being present, and read a short valedictory address which Mr. Tomes had prepared. He (Mr. Tomes) thought that during the past year a little real progress had been made in many directions. In the administration of the Dentists Act they had succeeded in prosecutions which had broken fresh ground, and so had crippled fresh forms of evasion which had hitherto been untouched. One form of attempt to evade the Act was for the intending offender to constitute himself into a bogus or "one-man" company. A departmental committee was appointed by the Board of Trade to inquire into and suggest amendments to the existing Companies Act, and this committee had been so far influenced by the facts laid before it by various bodies that they introduced into their draft Bill a clause which, if it became law, as it probably would, would enable complainers to have any company formed for a fraudulent or illegal purpose compulsorily wound up, and the Court might in such a case declare the liability of any or all of the members to be unlimited. With reference to the additions to the literature of the profession, Mr. Hopewell Smith's "Handbook of Dental Histology" was commended as a book which every dentist should have beside him. He also referred to papers by Dr. Black of Jacksonville, in which he had determined the force exerted in ordinary mastication, and had shown that that exercised by an artificial denture fell far short of that exercised by a patient's own teeth. He also referred to Dr. Black's amalgam experiments.

After the reading of this the Chairman introduced the new President, Mr. W. BOWMAN MACLEOD, of Edinburgh, who was very heartily received. He referred in appreciative terms to the late Sir John Tomes, whose loss the Association had recently to lament. He also acknowledged and thanked the University authorities for the readiness with which they had placed at their disposal whatever accommodation was required for the meeting. He then touched upon historical points connected with the University and interesting to their profession. The University had been established in the reign of James VI. of Scotland who became James I. of England, and he quoted evidence to show that that pedantic monarch was sufficiently interested in dentistry to have himself drawn several teeth. He traced the relation between the University and the city authorities, who had cared for and fostered the town's college and protected it through many perilous years. Referring to the influence Goodsir had in developing the University as a teacher of anatomy, he mentioned that Goodsir had served his time to Nasmyth, the father of Scottish dentistry, and that probably much of his success was due to the training he had received as an apprentice. He dwelt upon the advances made in surgery during the past half century, and on those also which had been made in their own profession. One of the principal factors towards the betterment of their profession had been the establishment of dental hospitals, in which the youth of their profession were being educated in the possibilities of conservative dentistry, and in which the public were being taught that by a little timely attention many an errant tooth could be restored to health and usefulness. Their hospitals were good, but he complained of the meagre assistance they got from the wealthy and well-to-do. Good as their hospitals were, they would never be what they might and ought to be until they could support a chair

in clinical dental surgery. Other divisions of study had claims for considerations, and chairs for these would come in time, but this one had, to his mind, the most urgent claims and should be the primary object of their efforts in shaping the immediate future of their educational institutions. The occupant of such a chair would require to be a man of experience, who would devote much of his time to teaching and superintending the work, and one whose knowledge and experience would give authority to his instruction and directions. The great want was the lack of money. He considered the possible channels by which they might get money. Money out of Imperial funds could not be relied upon, although he was not without hope that help might be given to them some day from that quarter. They had mainly to look to themselves and to the ever-increasing class of wealthy persons who were looking for channels into which they could direct surplus wealth where it would be utilised for the amelioration of distress. That they had so little encouragement in the past from this source was because they were young. Other and older institutions had claimed attention. Here was something to interest themselves in, a fresh development to stimulate them to renewed and increased energy, a fresh and additional plea to place before those who had helped in the past, and a stronger and broader claim to urge on those from whom they would seek assistance in the future.

On the motion of Mr. NEALE (Birmingham), seconded in humorous terms by Dr. CAMPBELL (Dundee), a vote of thanks was very heartily accorded Mr. Macleod for his address. At this stage Principal Sir WILLIAM MUIR entered, and in a few suitable words welcomed the Association to the University and commented on the importance of the dental profession.

The TREASURER'S report showed a satisfactory state of the funds and a considerable sum on hand and on deposit receipt.

The SECRETARY'S report dealt with a variety of legal cases. The object of prosecutions was not so much the expectation of arresting the evil of illegitimate practice, but rather to establish the meaning of the Act of Parliament and thereby to gather experience and power to grapple with the evil in a more extensive and efficient way at a not distant future. The question of "covering" was referred to as a fruitful source of imposition and injury to the general public. The question of direct representation on the General Medical Council had also received attention, but the progress had not realised the expectations of the more sanguine. Their claim was still before the Privy Council. The committee for the collective investigation of the teeth of school children was still at work, and though working in silence it would tend more to forward the Association's reputation in public estimation than perhaps any other influence at their disposal.

It was intimated that the next meeting was to be held in London in 1896, and that Mr. FREDERICK CANTON, L.R.C.P. Lond., was the President-elect.

In the microscopical section Mr. MUMMERY (London) delivered an address on the Progress of Microscopy in Dentistry.

In the report on school children's teeth it was stated that 700 children had been reported on during the year, bringing the total number examined up to 11,422. The investigations showed that teeth inevitably decayed as age advanced, and that the teeth of the children of the wealthy classes seemed more prone to decay than those of poor charity children.

Dr. FREDERICK HEWITT (London) read a paper in the afternoon entitled, "An Inquiry into the Safety and Sphere of Applicability of Chloroform as an Anæsthetic in Dental Surgery." He had endeavoured to obtain particulars of every fatality which had occurred in the British Isles during the past fifteen years. Although deaths from all general anæsthetics were included, a special analysis was made of chloroform fatalities. These constituted a very large proportion of the total number, and were so numerous that it was contended the time had come for the expression of some authoritative statement as to the proper sphere of applicability of chloroform in dental surgery. While admitting the value of chloroform in general surgery, dental operations differed widely from major surgical operations in that the general circumstances under which they took place were not nearly so favourable so far as the anæsthetic was concerned. It was, therefore, clear that there was special need in dental surgery for the employment of anæsthetics with a wide margin of safety—a quality with which chloroform was certainly not endowed. He contended that, with such an alarming death-rate from chloroform in this branch of practice, this anæsthetic should only be used under very exceptional circumstances, and that ether—an equally satisfactory agent when properly administered—should be chosen when the operation was such that nitrous oxide was inadmissible. He maintained that it was the duty of everyone who was called upon to administer an anæsthetic for a dental operation to employ that one which was least likely to destroy life. For short operations nitrous oxide should be selected, for longer ones ether, and chloroform should only be chosen for exceptional cases. The number of deaths during the period referred to was 37. Of these, 14 occurred in Scotland, 21 in England and Wales, and 2 in London. The discussion of this paper was postponed until the following day, but it may be referred to here.

Dr. D. WALLACE opened the discussion. He said that with regard to the deaths it was to be remembered that they did not know how often the various anæsthetics had been used, and he was inclined to think that probably chloroform was most used. In the Dental Hospital in Edinburgh he understood that within recent years probably over 300 cases had been chloroformed and no accident had occurred. Taken all over it seemed to be granted that ether was safer than chloroform, also he held that maladministration was much less probable with ether than with chloroform, as the former was given by special anæsthetists as a rule, while chloroform was given by all and sundry. He condemned operating during light anæsthesia. He also considered chloroform more convenient than ether. As to the causes of accidents from chloroform, he thought that even such discussions as they were engaged in tended to engender a feeling of terror about chloroform and they were led into the risk of giving too little. He followed Syme and Simpson in giving it and in attending to the respiration only. He disapproved of feeling the pulse, as the pulse became feeble if the patient became sick, and sickness was an indication to push the anæsthetic. His two points were that the patient should be recumbent, and that nothing should interfere with free respiration.—Mr. COLYER argued in favour of nitrous oxide gas and said that other anæsthetics were very seldom necessary.—Dr. WILLIAMSON (Aberdeen) pointed out that the medical men recommended chloroform in Scotland.—Dr. HEWITT, in reply, insisted that if it were shown that ether was safer than chloroform it was their duty to use it, and the medical men ought to be educated in the administration of it.

Mr. ROBBINS (London) read a practical paper on the Use of Amalgams in Everyday Practice, in which he strongly advocated their utility.

Mr. HERN (London) read a paper on Oral Hygiene, in which he referred to the care of the teeth.

Mr. G. CUNNINGHAM (Cambridge) made a communication entitled "What the Dentist can do for the State," in which he pointed out the importance of attending to the teeth, and how this point was entirely neglected, and suggested that there should be State dental officers.

Various interesting and instructive demonstrations were given, the most interesting of which was, perhaps, that by Mr. FRASER (Inverness) in which he used the electric mallet, and showed the method of adjusting a Logan crown to a front tooth. Methods of taking casts and the uses of electricity in dentistry were demonstrated.

The scientific part of the meeting was satisfactory and successful, and the weather was fairly propitious for social functions and sight-seeing. On the evening of the opening day the Lord Provost and magistrates gave a reception. On Aug. 30th the annual dinner was held, and Mrs. Bowman Macleod gave a successful and pleasant reception in the evening. On Aug. 31st there was an excursion to Loch Lomond, and the last general meeting was held in the Tarbet Hotel.

THE CASE OF MR. R. B. ANDERSON.

THE Civil Rights' Defence Committee, 3, Mitre-court, Temple, E.C., is making active endeavours to obtain some redress for Mr. Anderson, and in furtherance of this object a deputation, headed by the Right Hon. the Earl of Stamford, had an interview with several members of Parliament on Aug. 29th in the Conference Room of the House of Commons. Earl Stamford, after a review of the whole case,

an account of which recently appeared in our columns,[1] explained that the illegal judgments and orders of the colonial courts are still in force against Mr. Anderson, and that he is anxious to appeal to the Privy Council to have them cancelled, but has hitherto been prevented by lack of funds. General Graham, following Earl Stamford, stated that the colonial judges, among other illegal acts, incited and permitted speculative and fraudulent suits to be brought *in formâ pauperis* against Mr. Anderson, the plaintiffs not being paupers, and the affidavits of poverty and of the facts required by law being systematically dispensed with, contrary to the provisions of the Bill of Rights. In these suits Mr. Anderson was illegally denied his right to give evidence, he was deprived of his lawful professional charges, and penal damages were inflicted on him for lawfully exercising his right of retiring from a medical case and for lawfully recovering possession of his freehold land. To enforce these judgments he was illegally committed to prison and refused the writ of habeas corpus, excessive bail was illegally exacted (£1000 in civil claims of £42), and judgment in his appeals against these orders was withheld for three and a half months in order to keep him under restraint. Finally, having come to England and gained an action against the colonial judges, he was deprived of damages on the ground that no action could lie against a judge for acts done in his judicial capacity. The deputation urged that if this be the state of the law then it is essential in the interest of individual rights and liberties that some remedy for such abuses and some redress for such wrongs should be devised.

Messrs. Benjamin L. Cohen, M.P., H. Dalziel, M.P., W. Jones, M.P., J. Herbert Lewis, M.P., and Reginald McKenna, M.P., having assured the deputation of their sympathy and their intention to give the matter the utmost consideration, it was arranged that a second conference should be held at an early date. Dr. Ward Cousins (Southsea) then spoke at some length on the bearings of the case in relation to the medical profession, and the proceedings terminated.

A VISIT TO PROFESSOR KITASATO'S INSTITUTE FOR INFECTIOUS DISEASES.

BY J. M. ATKINSON, M.B. LOND., M.R.C.S. ENG., L.S.A.,
COLONIAL SURGEON, HONG-KONG.

ON July 28th I visited this institution and was shown round by Professor Kitasato, Dr. Nakagawa, a Japanese gentleman who is a graduate in medicine of New York University, acting as interpreter. Professor Kitasato, although having an intimate knowledge of German, does not speak English. We first proceeded to the laboratory, and I was shown the following specimens: (1) tubercle bacilli; (2) plasmodium malariæ; (3) pneumococcus (Fränkel's); (4) Löffler's bacillus; (5) tetanus bacillus; (6) bacillus anthracis; (7) plague bacillus; (8) lepra bacillus; (9) typhus fever (enteric fever) bacillus; (10) cholera bacillus; and (11) gonococcus. Professor Kitasato's method of obtaining the plasmodium malariæ is first to fix the specimen with a 1 per cent. solution of corrosive sublimate, afterwards staining with a saturated solution of eosin in absolute alcohol and then with Löffler's solution of methylene blue. With reference to diphtheria I had a long conversation with Professor Kitasato. He has succeeded in obtaining an antitoxin much stronger than any yet used. To show this 9 c.c. of his serum are all that he injects to cure a case of diphtheria; with Roux's serum, on the other hand, it is necessary to use as much as 100 c.c. He can obtain this from the blood of a horse, but prefers that of a sheep. I was shown large pieces of diphtheritic membrane which had been coughed up by patients who had been injected with this antitoxin. The "tetanus bacillus" was a beautiful specimen and is shaped somewhat like a clove, the head being the spore, and is stained red with carbolised fuchsine, the body of the bacillus being stained blue. The sixth specimen showed the spore formation very well, the spores being, as in the previous case, stained with fuchsine and the bacilli with methylene blue. The plague bacilli are very distinctive and are exactly similar to those which were obtained this year from the few plague cases which have occurred in Hong-kong. They are of an oval shape, presenting two deeply stained poles with a clear non-stained interval between them. The simplest way to obtain the plague bacilli is to take some of the juice from one of the affected lymphatic glands, smear it on a cover-glass, and, after fixing, stain with eosin or methyl blue. Bacilli are found to be present in great numbers; they are almost identical in appearance with those of chicken cholera. The bacillus of enteric fever, which was quite new to me, presents a deeply stained body with a number of fine filamentous processes passing off from it; none of these are branched. The specimen was from a culture obtained from the fæces in a typhoid fever case. After this I was taken round the menagerie, where there was a large number of animals—guinea-pigs, dogs, rabbits, mice, monkeys, &c.—for the purposes of inoculation, investigation, &c., and finally I visited the wards. In one room there were two patients convalescent from diphtheria who had been injected with Professor Kitasato's antitoxin; in another ward he showed me a case of leprosy in which the tubercles were disappearing under the influence of an antitoxin which he is now investigating. In another ward there was a child with traumatic tetanus; this case was also on a fair road to recovery, the seizures being much less since the injection of a tetanus antitoxin and the temperature having fallen after each injection. There were also some twelve cases of phthisis. Just off the wards there was a Lyons steam disinfector. The laboratory was furnished with every requisite, and one could not but be convinced that here, in the middle of Tokio, some excellent scientific research is being carried on by Professor Kitasato and his assistants.

[1] THE LANCET, Aug. 31st, 1895

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bristol Urban Sanitary Authority.—The population of Bristol proper was estimated to the middle of 1894 as 226,578; it is, however, well to note that the city itself is practically continuous on two of its sides with other urban districts containing an aggregate population of 59,509, so that in reality the population of which Bristol forms the centre amounts to nearly 300,000. It is obviously important to have regard to this consideration in estimating the value of Bristol's death-rates &c. The population of Bristol had up to the time of the result of the 1891 Census been known to be considerably over-rated, the over-estimation having been in 1891 no less than 10,199. The corrected general death-rate of Bristol for 1894 was 17·92 per 1000, the lowest yet recorded for the city; the infantile mortality for the same period was 148·3 per 1000 births. In commenting upon diphtheria Dr. D. S. Davies observes that the tendency of this disease to increase in the large urban districts of England and Wales is now unhappily shown in Bristol, although the death-rate for this district is found still to compare favourably with that of the thirty-three great towns. With regard to phthisis Dr. Davies considers that hospital isolation as is practised in other infectious diseases is not possible in this, but he thinks that good results would accrue from its notification. Bristol seems to be in a fair way to provide itself with satisfactory isolation accommodation, the urban sanitary authority having procured sites for the separate isolation of small-pox and other infectious diseases. The relations of Bristol to the surrounding urban sanitary districts already referred to would seem to indicate some joint hospital scheme as the most economical.

Huddersfield Urban Sanitary Authority.—Dr. J. R. Kaye reports that for the third year in succession the general death-rate of Huddersfield has been the lowest on record since the incorporation of the borough, the rate for 1894 being 15·9 per 1000 of the population. These gratifying results are, Dr. Kaye remarks, "largely the reward of wise sanitary work, but corporate action is not limitless and much may be ascribed to favourable atmospheric conditions." The birth-rate of the district was for 1894 but 20·25 per 1000, there having been a very marked decline in this respect since 1878, when the birth-rate was 35 per 1000. Among the thirty-three large towns the nearest approach during 1894 to the birth-rate of Huddersfield was that of Halifax, 23·1

per 1000 births. In connexion with the low birth-rate of Huddersfield Dr. Kaye points out in his report that its ultimate effect will be to produce an age distribution of the population favourable to an increased death-rate. The infantile mortality of Huddersfield for 1894 was 160 per 1000 births, as against one of 152 for the thirty-three large towns. The subject of providing a proper fever hospital for Huddersfield has, Dr. Kaye tells us, been "driven from pillar to post" for the last decade, but there is, it seems, a fair prospect of a suitable building being shortly erected. In connexion with the subject of food-supply Dr. Kaye points out—and it is certainly a very important consideration—that, although since the erection of the abattoir a large amount of the meat sold in the borough is supervised, the sale of carcases brought from other towns is on the increase; and he observes that these difficulties point to a national system of inspection of all animals intended for human consumption. Unfortunately, in the case of England—dependent as it is, in large part at least, upon foreign meat—the inspection of home-raised cattle would form but a small part of the supervision necessary, and the introduction of foreign carcases from abroad presents a further difficulty. If the result of a rigid inspection of home produce is to increase foreign importation, the advantages from the standpoint of public health are not altogether obvious. As regards the smoke nuisance in Huddersfield, Dr. Kaye reports that the recent bad trade and a poor quality of coals have tended to increase it. A complete survey of the principal streams in Huddersfield has recently been made, and the pollutions discovered are to be immediately rectified on the completion of a new sewer. The conditions of the rivers Holme and Colne are now receiving the attention of the Rivers Board, and Dr. Kaye expresses a hope that some improvement will soon result. At the present time, he states, the condition of these two rivers as they enter Huddersfield is filthier than when they leave it. If this is so the corporation of Huddersfield will have much to gain and nothing to lose by supporting the action of the Rivers Board.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6321 births and 4042 deaths were registered during the week ending Aug. 31st. The annual rate of mortality in these towns, which had been 19·1 and 19·9 per 1000 in the two preceding weeks, was again 19·9 during the week ending Aug. 31st. In London the rate was 15·9 per 1000, while it averaged 22·8 in the thirty-two large provincial towns. The lowest rates in these towns were 14·2 in Bristol, 15·0 in Halifax, 15·9 in London and in West Ham, and 16·1 in Leicester; the highest rates were 31·0 in Sunderland, 31·3 in Hull, 34·1 in Bolton, and 35·6 in Burnley. The 4042 deaths included 1071 which were referred to the principal zymotic diseases, against 929 and 977 in the two preceding weeks; of these, 762 resulted from diarrhœa, 99 from measles, 65 from whooping-cough, 56 from diphtheria, 43 from scarlet fever, 40 from "fever" (principally enteric), and 6 from small-pox. In the large towns these diseases caused the lowest death-rates in Swansea, Plymouth, Bristol, Croydon, London, and Huddersfield; and the highest rates in Blackburn, Hull, Sunderland, Bolton, and Burnley. The greatest mortality from measles occurred in West Ham and in Blackburn; from whooping-cough in Bradford; and from diarrhœa in Blackburn, Norwich, Sunderland, Hull, Bolton, and Burnley. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 56 deaths from diphtheria included 40 in London, 4 in Birmingham, and 3 in Liverpool. Four deaths from small-pox were registered in London, 1 in Oldham, and 1 in Preston, but not one in any other of the thirty-three towns. There were 341 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday, Aug. 31st, against 273, 336, and 357 at the end of the three preceding weeks; 36 new cases were admitted during the week, against 54, 79, and 65 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of August was 2512, against 2511, 2529, and 2507 on the three preceding Saturdays; 264 new cases were admitted during the week, against 276, 357, and 307 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 137 and 170 in the two preceding weeks, declined again to 102 during the week ending the 31st ult., and were 51 below the corrected average. The causes of 44, or 1·1 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Portsmouth, Newcastle, Bradford, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Salford, Blackburn, and Sheffield.

In thirty-three of the largest towns 6329 births and 4050 deaths were registered during the week ending Sept. 7th. The annual rate of mortality in these towns, which had been 19·9 per 1000 in each of the two preceding weeks, was again 19·9 last week. In London the rate was 16·1 per 1000, while it averaged 22·6 in the thirty-two provincial towns. The lowest rates in these towns were 11·1 in Plymouth, 12·4 in Swansea, 12·5 in West Ham, 13·2 in Croydon, and 15·3 in Bristol; the highest rates were 33·8 in Preston, 34·7 in Blackburn, 35·6 in Hull, 37·1 in Wolverhampton, and 40·5 in Sunderland. The 4050 deaths included 1071 which were referred to the principal zymotic diseases, against 977 and 1071 in the two preceding weeks; of these, 775 resulted from diarrhœa, 75 from measles, 66 from whooping-cough, 62 from diphtheria, 49 from "fever" (principally enteric), 37 from scarlet fever, and 7 from small-pox. These diseases caused the lowest death-rates in Plymouth, Bristol, Swansea, and Croydon, and the highest rates in Burnley, Wolverhampton, Blackburn, Sunderland, and Hull. The greatest mortality from measles occurred in West Ham, Salford, and Blackburn; from whooping-cough in Wolverhampton, Bolton, Bradford, and Gateshead; from "fever" in Sunderland; and from diarrhœa in Wolverhampton, Blackburn, Burnley, Sunderland, Preston, and Hull. The mortality from scarlet fever showed no marked excess in any of the large towns. The 62 deaths from diphtheria included 38 in London, 4 in Birmingham, 4 in Leeds, and 3 each in Wolverhampton, Birmingham, and Liverpool. Five fatal cases of small-pox were registered in London, one in Manchester, and one in Oldham, but not one in any other of the thirty-three towns. There were 328 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 7th inst., against 336, 342, and 340 at the end of the three preceding weeks; 25 new cases were admitted during the week, against 79, 65, and 36 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2600, against 2529, 2507, and 2512 on the three preceding Saturdays; 336 new cases were admitted during the week, against 357, 306, and 264 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 170 and 102 in the two preceding week, rose again to 134 last week, but were 21 below the corrected average. The causes of 47, or 1·2 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Leicester, Nottingham, Bradford, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Bristol, Wolverhampton, and Birmingham.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 16·6 in each of the two preceding weeks, rose to 17·3 during the week ending Aug. 31st, and was 2·6 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·8 in Paisley, 15·6 in Edinburgh, and 15·7 in Leith to 18·2 in Dundee and 24·0 in Perth. The 499 deaths in these towns included 78 which were referred to diarrhœa, 12 to whooping-cough, 10 to "fever," 8 to scarlet fever, 5 to measles, 5 to diphtheria, and not one to small-pox. In all, 118 deaths resulted from these principal zymotic diseases, against 99 and 83 in the two preceding weeks. These 118 deaths were equal to an annual rate of 4·1 per 1000, which was 1·2 below the mean rate during the same period from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had declined from 68 to 42 in the three preceding weeks, increased again to 78, of which 34 occurred in Glasgow, 15 in Dundee, and 12 in Edinburgh. The

deaths referred to whooping-cough, which had been 17, 15, and 24 in the three preceding weeks, fell again to 12, and included 7 in Glasgow and 3 in Aberdeen. The fatal cases of "fever," which had been 6 in each of the two preceding weeks, rose to 10, and of these 8 occurred in Glasgow. The deaths from scarlet fever, which had increased from 3 to 8 in the four preceding weeks, were again 8, of which 3 occurred in Glasgow, 3 in Leith, and 2 in Edinburgh. The fatal cases of measles, which had declined from 8 to 2 in the three preceding weeks, rose again to 5, and included 3 in Glasgow. The deaths from diphtheria, which had been 4 and 1 in the two preceding weeks, rose again to 5, of which 2 occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 57 and 55 in the two preceding weeks, were 54 during the week under notice, and were within one of the number in the corresponding week of last year. The causes of 16, or more than 3 per cent., of the deaths in these eight towns were not certified.

The annual rate of mortality in the eight Scotch towns, which had been 16·6 and 17·3 per 1000 in the two preceding weeks, further rose to 17·5 during the week ending Sept. 7th, but was 2·4 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·6 in Dundee and 16·7 in Dundee to 20·6 in Leith and in Perth, and 23·5 in Greenock. The 504 deaths in these towns included 74 which were referred to diarrhœa, 15 to whooping-cough, 8 to scarlet fever, 4 to "fever," 2 to measles, 2 to diphtheria, and not one to small-pox. In all, 105 deaths resulted from these principal zymotic diseases, against 83 and 118 in the two preceding weeks. These 105 deaths were equal to an annual rate of 3·6 per 1000, which was 1·8 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 42 and 78 in the two preceding weeks, were 74 last week, of which 26 occurred in Glasgow, 22 in Edinburgh, and 14 in Dundee. The deaths referred to whooping-cough, which had been 15, 24, and 12 in the three preceding weeks, rose again to 15 last week, and included 7 in Glasgow and 3 in Dundee. The 8 fatal cases of scarlet fever corresponded with the number in the preceding week, and included 4 in Glasgow and 2 in Leith. The deaths referred to different forms of "fever," which had been 6 and 10 in the two preceding weeks, declined to 4 last week, of which 2 occurred in Glasgow. The 2 fatal cases of diphtheria were recorded in Edinburgh and the 2 deaths from measles in Greenock. The deaths referred to diseases of the respiratory organs in these towns, which had been 55 and 54 in the two preceding weeks, were 56 last week, and slightly exceeded the number in the corresponding week of last year. The causes of 33, or nearly 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·0 and 29·0 in the two preceding weeks, rose again to 23·6 during the week ending Aug. 31st. During the first nine weeks of the current quarter the death-rate in the city averaged 23·4 per 1000, the rate during the same period being 19·6 in London and 16·4 in Edinburgh. The 158 deaths registered in Dublin during the week under notice showed an increase of 18 upon the number in the preceding week, and included 20 which were referred to the principal zymotic diseases, against 21 and 11 in the two preceding weeks; of these, 12 resulted from diarrhœa, 5 from "fever," 3 from whooping-cough, and not one from small-pox, measles, scarlet fever, or diphtheria. These 20 deaths were equal to an annual rate of 3·0 per 1000, the zymotic death-rate during the same period being 3·3 in London and 3·0 in Edinburgh. The fatal cases of diarrhœa, which had decreased from 23 to 9 in the three preceding weeks, rose again to 12 during the week under notice. The mortality from "fever" and from whooping-cough showed an increase. The 158 deaths in Dublin included 35 of infants under one year of age, and 39 of persons aged upwards of sixty years, the deaths both of infants and of elderly persons showing an increase. Six inquests were held and 5 deaths from violence were registered; and 43, or more than one-fourth, of the deaths occurred in public institutions. The causes of 20, or nearly 13 per cent., of the deaths in the city last week were not certified.

The death-rate in Dublin, which had been 20·9 and 23·6 per 1000 in the two preceding weeks, declined again to 22·2 during the week ending Sept. 7th. During the past ten weeks of the current quarter the death-rate in the city has averaged 23·3 per 1000, the rate during the same period being 19·2 in London and 16·5 in Edinburgh. The 149 deaths registered in Dublin during the week under notice showed a decline of 9 from the number in the preceding week, and and included 13 which were referred to the principal zymotic diseases, against 11 and 20 in the two preceding weeks; of these, 8 resulted from diarrhœa, 2 from whooping-cough, 1 from scarlet fever, 1 from diphtheria, 1 from "fever," and not one either from small-pox or measles. These 13 deaths were equal to an annual rate of 1·9 per 1000, the zymotic death-rate during the same period being 3·2 in London and 5·1 in Edinburgh. The fatal cases of diarrhœa, which had been 9 and 12 in the two preceding weeks, declined again to 8 last week. The mortality from whooping-cough and from "fever" showed a decline from that recorded in the preceding week. The 149 deaths in Dublin last week included 31 of infants under one year of age and 28 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a decline from the numbers in the preceding week. Six inquest cases and 6 deaths from violence were registered; and 40, or more than a fourth, of the deaths occurred in public institutions. The causes of 10, or nearly 7 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING AUGUST, 1895.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during August in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious disease in the metropolis during last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 9·9 per 1000 of the population, estimated at 4,392,346 persons in the middle of the current year. In the three preceding months the rates had been 6·8, 8·4, and 11·6 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in St. George Hanover-square, Westminster, Hampstead, St. Martin-in-the-Fields, St. Olave Southwark, Lewisham, and Lee; while they showed the largest excess in Bethnal Green, Whitechapel, St. George-in-the-East, Limehouse, Mile End Old Town, Poplar, and St. Saviour Southwark. The prevalence of small-pox in London showed a further increase in August, 231 cases being notified during the month, including 37 in Bethnal Green, 28 in Whitechapel, 22 in Camberwell, 21 in Mile End Old Town, 11 in St. George-in-the-East, and 11 in St. George Southwark sanitary areas. The Metropolitan Asylum Hospitals contained 331 small-pox patients at the end of August, against 20, 33, and 232 at the end of the three preceding months; the weekly admissions averaged 57, against 5, 10, and 49 in the three preceding months. The prevalence of scarlet fever in London showed a slight decline during August; this disease was proportionally most prevalent in Strand, Bethnal Green, Whitechapel, St. George-in-the-East, Limehouse, Mile End Old Town, Poplar, and St. Saviour Southwark sanitary areas. The Metropolitan Asylum Hospitals contained 2435 scarlet fever patients at the end of August, against 1481, 1845, and 2340 at the end of the three preceding months; the weekly admissions averaged 292, against 167, 229, and 263 in the three preceding months. The prevalence of diphtheria in London showed a marked decline during the month under notice; among the various sanitary areas this disease showed the highest proportional prevalence in Bethnal Green, Whitechapel, St. George-in-the-East, Limehouse, Mile End Old Town, Poplar, Camberwell, and Greenwich. There were 666 cases of diphtheria under treatment in the Metropolitan Asylum Hospitals at the end of August, against 508, 633, and 680 at the end of the three preceding months; the weekly admissions averaged 80, against 81, 109, and 103 in the three preceding months. The prevalence of enteric fever in London showed a marked increase during August; this disease was proportionally most prevalent in Kensington, Fulham, City of London, St. George-in-the-East, Limehouse, Mile End Old Town, Camberwell, and Woolwich sanitary areas. Erysipelas was proportionally most prevalent in Kensington, Holborn, Shoreditch, Bethnal Green, Whitechapel, and St. George-in-the-East sanitary areas. The 23 cases of puerperal fever notified during August included 3 in Hackney and 3 in Greenwich sanitary areas.

The mortality statistics in the accompanying table relate

MONTHLY ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON—AUGUST, 1895.

(Specially compiled for THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1895.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,392,346	231	1605	802	1	262	5	21	463	6	3338	9·9	14	243	81	167	73	1	42	—	613	1237	3·7	5687	16·9	189
West Districts.																										
Paddington	122,756	2	37	17	—	1	—	2	9	—	68	7·2	—	—	1	9	3	—	—	—	11	24	2·5	137	14·6	195
Kensington	167,671	2	21	29	—	12	1	1	26	—	92	7·2	—	2	1	6	2	—	2	—	17	30	2·3	163	12·7	150
Hammersmith	106,429	1	29	10	—	7	—	—	11	—	58	7·0	—	2	3	2	1	—	2	—	16	26	3·1	122	14·7	216
Fulham	117,745	—	22	22	—	9	1	—	6	—	60	6·6	—	8	—	2	4	—	1	—	27	42	4·7	153	16·9	246
Chelsea	99,930	1	41	17	—	2	—	1	10	—	72	9·4	—	1	3	1	1	—	—	—	14	20	2·6	128	16·7	251
St. George Hanover-square	74,037	1	12	1	—	1	—	—	5	—	20	3·5	—	—	1	—	1	—	—	—	6	7	1·2	63	11·1	138
Westminster	54,003	—	9	4	—	1	—	—	1	—	15	3·6	—	4	—	—	1	—	—	—	7	12	2·9	84	20·3	156
St. James Westminster	23,149	—	6	5	—	1	—	—	—	—	12	6·8	—	1	—	—	—	—	1	—	1	3	1·7	21	11·8	48
North Districts.																										
Marylebone	137,392	4	36	18	—	10	1	1	10	—	80	7·6	—	2	—	3	2	—	3	—	18	28	2·7	173	16·4	150
Hampstead	77,592	1	8	9	—	4	—	—	4	—	26	4·4	—	—	—	1	—	—	—	—	8	9	1·5	60	10·1	193
St. Pancras	233,543	3	96	29	—	8	—	1	26	—	163	9·1	—	21	3	10	2	—	1	—	38	75	4·2	311	17·4	195
Islington	335,929	3	125	34	—	10	—	2	22	—	196	7·6	—	14	5	14	5	—	3	—	28	67	2·6	353	13·7	134
Stoke Newington	35,234	—	12	4	—	—	—	1	2	—	19	7·0	—	—	—	1	—	—	—	—	2	3	1·1	28	10·4	134
Hackney	215,623	4	80	19	1	12	—	3	15	—	134	8·1	—	12	1	2	3	1	3	—	34	56	3·4	249	15·1	180
Central Districts.																										
St. Giles	37,654	3	18	4	—	3	—	—	4	—	32	11·1	1	1	1	1	—	—	1	—	4	9	3·1	39	13·5	106
St. Martin-in-the-Fields	13,526	—	2	—	—	—	—	—	—	—	2	1·9	1	—	—	—	—	—	—	—	—	1	1·0	13	12·5	200
Strand	22,586	—	17	2	—	2	—	—	1	—	22	12·7	—	—	2	—	—	—	1	—	—	3	1·7	37	21·4	278
Holborn	32,188	7	13	5	—	3	—	—	5	—	35	13·4	—	6	—	—	—	—	—	—	4	10	4·0	63	25·5	365
Clerkenwell	65,036	6	25	8	—	4	1	1	8	—	53	10·6	—	7	2	1	2	—	—	—	8	20	4·0	94	18·8	180
St. Luke	40,763	1	13	8	—	1	—	1	5	—	29	9·3	—	18	—	—	—	—	1	—	10	29	9·3	92	29·4	222
City of London	33,824	—	9	5	—	6	—	—	2	—	22	8·5	—	1	1	—	—	—	1	—	2	5	1·9	45	17·3	261
East Districts.																										
Shoreditch	122,932	6	51	21	—	11	1	—	16	—	106	11·2	1	10	5	8	1	—	2	—	16	43	4·6	171	18·1	185
Bethnal Green	130,061	37	87	39	—	13	—	2	19	—	197	19·7	2	10	3	11	2	—	1	—	15	44	4·4	199	19·9	167
Whitechapel	76,820	28	65	28	—	2	—	—	10	—	133	22·9	3	13	1	10	2	—	—	—	7	36	6·2	149	25·6	195
St. George-in-the-East	45,227	11	28	31	—	5	—	—	8	—	83	23·9	—	10	3	8	—	—	1	—	13	35	10·1	108	31·1	250
Limehouse	56,895	4	44	15	—	7	—	—	2	—	72	16·6	—	8	6	3	3	—	1	—	7	28	6·4	127	28·7	289
Mile End Old Town	106,443	21	85	43	—	10	—	—	13	—	172	20·7	1	18	5	11	4	—	—	—	19	58	7·0	183	22·0	166
Poplar	171,230	8	95	69	—	12	—	—	17	—	201	15·3	1	15	8	18	7	—	2	—	30	81	6·2	250	19·0	197
South Districts.																										
St. Saviour Southwark	26,570	3	19	4	—	1	—	—	1	—	28	13·7	—	2	—	—	—	—	—	—	6	8	3·9	58	28·5	328
St. George Southwark	60,168	11	16	10	—	1	—	1	3	—	42	9·1	—	4	3	1	2	—	1	—	9	20	4·3	95	20·6	194
Newington	119,358	4	28	27	—	9	—	1	11	—	78	8·5	1	7	1	5	2	—	—	—	21	37	4·0	159	17·4	192
St. Olave Southwark	13,065	—	3	1	—	—	—	—	—	—	4	4·0	—	2	—	—	—	—	—	—	5	7	7·0	28	28·0	481
Bermondsey	83,861	2	40	7	—	2	—	—	10	—	61	9·5	—	9	3	1	3	—	1	—	12	29	4·5	108	16·8	132
Rotherhithe	40,713	8	11	10	—	3	—	—	4	3	39	12·5	—	2	—	2	1	—	1	—	12	18	5·8	54	17·3	162
Lambeth	284,883	9	117	59	—	19	—	—	21	2	227	10·4	—	13	4	5	8	—	2	—	45	77	3·5	389	17·8	192
Battersea	165,130	2	57	19	—	5	—	—	22	—	105	8·3	—	7	4	7	1	—	—	—	24	43	3·4	215	17·0	225
Wandsworth	185,966	5	37	19	—	10	—	—	18	1	90	6·3	1	2	1	1	1	—	2	—	19	27	1·9	175	12·3	184
Camberwell	252,737	22	89	77	—	33	—	2	27	—	250	12·9	1	6	5	8	2	—	2	—	36	60	3·1	321	16·6	200
Greenwich	175,183	3	65	58	—	11	—	3	17	—	157	11·7	—	1	6	13	7	—	2	—	29	58	4·3	232	17·3	187
Lewisham (excluding Penge)	82,410	—	7	7	—	3	—	—	5	—	22	3·5	—	2	1	—	—	—	1	—	14	18	2·8	77	12·2	186
Woolwich	42,768	—	7	5	—	6	—	—	1	—	19	5·8	—	—	—	2	—	—	—	—	4	6	1·8	50	15·2	208
Lee	38,832	—	6	1	—	—	—	—	1	—	8	2·7	—	1	—	—	—	—	—	—	1	2	0·7	44	14·8	159
Plumstead	61,494	8	19	2	—	2	—	—	5	—	36	7·6	1	1	1	—	—	—	3	—	17	23	4·9	67	14·2	189
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 35 cases of membranous croup.

† Including deaths from membranous croup.

to the deaths of persons actually belonging to the various sanitary areas, the deaths occurring in the institutions of London having been distributed among the different sanitary areas in which the patients had previously resided. During the four weeks ending Saturday, Aug. 31st, the deaths of 5687 persons belonging to London were registered, equal to an annual rate of 16·9 per 1000 of the population, against 15·9, 14·9, and 21·0 in the three preceding months. The lowest death-rates during August in the various sanitary areas were 10·1 in Hampstead, 10·4 in Stoke Newington, 11·1 in St. George Hanover-square, 11·8 in St. James Westminster, 12·2 in Lewisham (excluding Penge), 12·3 in Wandsworth, and 12·5 in St. Martin-in-the-Fields; the highest rates were 25·5 in Holborn, 25·6 in Whitechapel, 28·0 in St. Olave Southwark, 28·5 in St. Saviour Southwark, 28·7 in Limehouse, 29·4 in St. Luke, and 31·1 in St. George-in-the-East. During the four weeks of August 1237 deaths were referred to the principal zymotic diseases in London; of these, 613 resulted from diarrhœa, 243 from measles, 167 from diphtheria, 84 from scarlet fever, 73 from whooping-cough, 42 from enteric fever, 14 from small-pox, and 1 from typhus. These 1237 deaths were equal to an annual rate of 3·7 per 1000; the lowest zymotic death-rates were recorded in St. George Hanover-square, St. James Westminster, Hampstead, Stoke Newington, St. Martin-in-the-Field, Strand, and Lee; and the highest rates in St. Luke, Whitechapel, St. George-in-the-East, Limehouse, Mile End Old Town, Poplar, and St. Olave Southwark sanitary areas. Fourteen fatal cases of small-pox were registered in London during the month under notice, the corresponding average in the corresponding periods of the ten preceding years being 6; of these 14 fatal cases 3 belonged to Whitechapel and 2 to Bethnal-green sanitary areas. The 243 deaths referred to measles were 91 above the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Holborn, St. Luke, Whitechapel, St. George-in-the-East, Limehouse, Mile End Old Town, and Bermondsey. The 84 fatal cases of scarlet fever almost corresponded with the corrected average number; this disease showed the highest proportional fatality in Strand, St. George-in-the-East, Limehouse, and Mile End Old Town sanitary areas. The 167 deaths referred to diphtheria were 45 above the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Shoreditch, Bethnal Green, Whitechapel, St. George-in-the-East, Mile End Old Town, Poplar, and Greenwich. The 73 fatal cases of whooping-cough were little more than half the corrected average number; this disease showed the highest proportional fatality in Limehouse, Poplar, and Greenwich sanitary areas. The 42 deaths referred to enteric fever were within 6 of the corrected average number; there was no marked excess of "fever" mortality last month in any of the sanitary areas. The 613 fatal cases of diarrhœa were 102 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Fulham, St. Luke, St. George-in-the-East, St. Saviour Southwark, Rotherhithe, and Plumstead. In conclusion, it may be stated that the mortality in London during August from these principal zymotic diseases was very slightly below the average.

Infant mortality in London during August, measured by the proportion of deaths under one year of age to registered births, was equal to 189 per 1000, and was below the average. Among the various sanitary areas the lowest rates of infant mortality were recorded in St. George Hanover-square, St. James Westminster, Islington, Stoke Newington, St. Giles, and Bermondsey; and the highest rates in Strand, Holborn, City of London, Limehouse, St. Saviour Southwark, and St. Olave Southwark.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

THE following officers have received orders to proceed to India at an early date.—Surgeon-Lieutenant-Colonel Brown, Surgeon-Majors Lane, Coates, Haywood, Peterkin, Rhodes, and O'Keefe, and Surgeon-Captain Durant. Surgeon-Captain Adamson has arrived from Egypt on leave. Brigade-Surgeon-Lieutenant-Colonel Macnamara has assumed Charge of the Station Hospital at Fermoy. Surgeon-Captain M. L. Hearn is ordered to hold himself in readiness to proceed to the Straits Settlements for duty. The following officers have embarked in the *Victoria* for a tour of service in India:—Surgeon-Lieutenant-Colonel Blood, Surgeon-Major Burton, and Surgeon-Lieutenants Pollock, Rivers, Longhurst, Symons, and Buswell. Surgeon-Major Kirkpatrick has been appointed to Winchester. Surgeon-Captain Birch has been invalided from Bombay, and Surgeon-Captain Day has returned to Malta from leave of absence. Surgeon-Major Russell has arrived in England from Gibraltar. Surgeon-Colonel Muir will shortly proceed to India in relief of Surgeon-Colonel Wilson, tour expired.

INDIA AND THE INDIAN MEDICAL SERVICES.

The Queen has approved of the following admissions to the Indian Medical Service:—To be Surgeon-Lieutenants: *Bengal:* John Stephenson, Frank Needham Windsor, Walter Barrie Turnbull, Ernest Edwin Waters, Asher Leventon, and Philip Francis Chapman. *Madras:* Frederick Linton Blenkinsop, Alfred Moore, Edmund Moritz Illington, Thomas Edgar Watson, and Charles George Webster. *Bombay:* Alfred Hooton, Arthur Frederick William King, Robert Frazer Standage, Andrew Armstrong Gibbs, and Henry Alfred Forbes Knapton. The following appointments are announced:—Surgeon-Captain J. B. Jameson, Officiating Medical Officer, 5th Bombay Cavalry and Officiating Civil Surgeon, Jacobabad, is appointed to officiate as Medical Officer of the 2nd Regiment Central India Horse, and of the Goona Political Agency until further orders. Surgeon-Lieutenant-Colonel J. McConaghy, Civil Surgeon, Lucknow, to hold Charge of the current duties of the office of Inspector-General of Civil Hospitals, North-West Provinces and Oudh, in addition to his other duties, until further orders. Surgeon-Lieutenant-Colonel G. C. Hall, Officiating Inspector-General of Prisons, North-West Provinces and Oudh, on being relieved by Sir John Tyler, to revert to his substantive appointment as Superintendent, Central Prison, Allahabad. Surgeon-Captain H. W. Elphick, Officiating Superintendent, Central Prison, Allahabad, on being relieved by Surgeon-Lieutenant-Colonel G. C. Hall, to be Civil Surgeon, Muzaffarnagar. Brigade-Surgeon-Lieutenant-Colonel B. Franklin, Surgeon to the Viceroy, is appointed to hold Charge of the office of Inspector-General of Civil Hospitals in the Punjab, in addition to his own duties, until further orders. Surgeon-Captain H. J. Dyson, Deputy Sanitary Commissioner in the Punjab, is appointed to be Sanitary Commissioner of Bengal. Surgeon-Colonel A. F. Churchill, A.M.S., is brought on the Administrative Medical Staff of the Army. A good service pension has been conferred on Surgeon-Colonel L. D. Spencer, M.D., in place of Surgeon-Major-General W. R. Rice, M.D., retired. Brigade-Surgeon-Lieutenant-Colonel, A. Barry, M.D., Bombay Establishment, 6th Regiment of Bombay Cavalry (Jacob's Horse), retires from the service.

NAVAL MEDICAL SERVICE.

The following appointments are notified:—Staff-Surgeons: E. R. Dimsey to the *Sappho;* S. W. Johnson to the *Melita;* E. J. Biden to the *Scout;* Donald T. Hoskyns and Ernest E. Bray to the *Boscawen;* Alex. L. Christie to the *Camperdown;* J. A. McAdam to the *Grafton*. Surgeons: James Mowat to the *Albacore*, and W. R. Knightley to the *Camperdown*.

YEOMANRY CAVALRY.

Royal Wiltshire (Prince of Wales's Own Royal Regiment): Surgeon-Lieutenant G. T. K. Maurice resigns his commission.

VOLUNTEER CORPS.

Artillery: 1st Cheshire and Carnarvonshire: Surgeon-Major W. Bell resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the Corps on his retirement. 1st Cumberland: James Brown Bird, M.B., to be Surgeon-Lieutenant. *Rifle:* 1st Volunteer Battalion the Sherwood Foresters (Derbyshire Regiment): Surgeon-Lieutenant T. Johnston resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the Battalion on his retirement. 9th Lanarkshire: Surgeon-Lieutenant C. Symington, M.B., resigns his commission.

THE WAR OFFICE REORGANISATION.

We confess that we are unable to understand the exact nature of the newly proposed scheme of War Office organisation or see how it is to accomplish the end in view or prove workable in practice. So far from clearly defining and fixing responsibility and simplifying matters generally, it seems to us that responsibility and power will be in future dissipated in a multitude of councils, and no one will be able to say in which of these or with whom the responsibility really resides. There is to be, first of all, a Commander-

in-chief as military head of the army just as there was before and is at the present time, not that this matters much, and it is on the whole desirable, we should say, to retain the title. But there is to be a Board, presided over by the Commander-in-chief, with four military members, who will be directly responsible for their departments to the Secretary of State. Next there is to be a War Office Council, presided over by the Secretary of State, of which the Commander-in-chief and the Under-Secretary and Financial Secretary will be members; to which is added apparently a third council, with specialised but higher functions, to complete the three-storeyed edifice. As regards the Army Board it will either happen that Lord Wolseley as president and military head of the army will practically and in effect constitute the board or be subjected to the risk of opposition and contention on the part of its independent members, who are subordinate to him in military rank, with the option of a direct appeal from any of them to the Secretary of State. There are other points, too, provocative of misgiving or criticism; but it is probable that when Parliament meets again the Government will have thoroughly considered the subject of the scheme as a whole. They will then have had time to weld the machinery together into something like a more perfectly adjusted and self-balanced scheme. We do not see that any place is given, by the way, for any direct representation of the medical service at any board or council.

THE CASE OF SURGEON-MAJOR CLARENCE SMITH AND THE MADRAS GOVERNMENT.

Our readers' attention has been already called to this matter, and there is no need to recapitulate the facts so far as they have been published. It will be remembered, however, that the Secretary of State for India had consented to reconsider the matter, and the Madras Government has consequently offered Surgeon-Major Smith the option of having the case further investigated before a Commission composed of a military officer and an officer of judicial experience, both sides to be allowed counsel and the right to call witnesses, but the Commission was to be neither judicial nor public. Mr. Clegg's letter was to have been read and Surgeon-Major Smith examined on it, as well as upon his memorial and certain private letters. It is understood that Surgeon-Major Smith has declined to accede to these terms. In our opinion this is to be regretted. The course hitherto pursued may have been a wrong one and unfair to the officer concerned; still, the present offer shows that there is a disposition now to get at the truth and to do Surgeon-Major Smith justice, and there is no reason to suppose that the members of the Commission would not be impartial and ready to listen to anything that could be adduced in his favour and to report thereon accordingly. The proposal to Surgeon-Major Smith may not have been of the nature or in the form that he would have preferred, but it nevertheless gave the opportunity of having the matter fully represented and examined from his as well as the Government point of view. According to the *Pioneer Mail* of the 21st ult., just received, we learn that in consequence of a telegram from the Secretary of State Surgeon-Major Smith has consented, under protest, to appear before the Commission. We think him well advised in doing so under the circumstances, and hope the result may be favourable to him.

THE STRENGTH OF THE ARMY MEDICAL STAFF.

The *Army and Navy Gazette* states that "rumours are abroad which indicate the probability of further reductions in the administrative ranks of the Army Medical Staff. From some thirty-five officers that were found in the Surgeon-Colonel's List (old style, deputy surgeon-generals) only twenty-four are now provided for in the Army Estimates. The pruning knife is, we understand, likely to be applied shortly to the Surgeon-Major-General's List."

UNIFICATION OF THE INDIAN MEDICAL SERVICES.

The *Pioneer Mail* says: "The unification of the Indian Medical Services in the three Presidencies will shortly be carried into effect. It is part and parcel of the Army Reorganisation scheme, and only awaits the formal sanction of the India Office. The three Services will be amalgamated, and will be worked as at present through the Surgeon-General with the Government of India."

ARMY MEDICAL STAFF.

Surgeon-Captain Arthur L. H. Dixon retires from the service, receiving a gratuity.

The appointment of Brigade-Surgeon-Lieutenant-Colonel Notter as Professor of Military Hygiene at the Army Medical School, Netley, has been renewed for a second term of office.

The War Office authorities, having decided to largely extend the military hospital at Stoke, Plymouth, are stated to be negotiating for the purchase of a site of about four acres for the purpose. It is intended to erect four new blocks, for 100 patients each, with additional quarters for medical officers.

Correspondence.

"Audi alteram partem."

"THE PHYSIOLOGY OF DEATH BY ELECTRIC SHOCK."

To the Editors of THE LANCET.

SIRS,—I have been much interested in reading the remarks upon the physiology of death by electric shock which have recently appeared in THE LANCET.[1] The conclusion arrived at by Dr. A. M. Bleile of Ohio is "that death in electric shock is really due to the fact that the current produces a contraction of the arteries through an influence on the nervous system, and that this constriction of the arteries throws in such a mechanical impediment to the flow of the blood as the heart is unable to overcome." The grounds upon which this conclusion is based, being well established by a series of investigations and experiments, are, in my opinion, incontestable. But from these indisputable facts there arises a subject for consideration which is both of very deep interest and of very great importance. It is the question of the precise manner in which the electric force is productive of the observed results. This is a question which has a widely extended and most intimate and essential connexion with all biological phenomena.

I venture to hope that you will be able to afford space in THE LANCET for the solution which I offer of this interesting problem, the more especially as the investigations which I have conducted through a long series of years assure me that it is quite impossible to separate the physics of the cause of death under the conditions named from the physics which are continuously operating to maintain the phenomena of life, except as regards the quantity of the current which traverses the body in a given time. I will explain as briefly as possible the mode in which, as it appears to me, the observed phenomena are brought about. The points to be noticed are as follows: (1) the left side (of the heart) is completely relaxed and the right side intensely gorged with blood, as also are the large veins in the immediate vicinity of the heart; and (2) the arteries are contracted down to a very small calibre. The cause of these phenomena will be more readily seen if I reverse the order in which they are enumerated. 1. The contraction of the arteries is unquestionably due to a physical cause acting primarily upon the contents of the vessels—i.e., the blood—and secondarily through the blood upon the nerve and muscular fibres which enter into the composition of their structures. This physical cause is the passage of the electric current, and its effect is first produced in the arteries for the following reason: the arteries and veins are both filled with blood, but the magnetic charge in the arterial blood is greater than in the venous blood.[2] This difference in the amount of magnetic charge is due to the oxygen which has been absorbed during the circulation of the blood through the lungs, and is in proportion to the oxyhæmoglobin which has been formed thereby. The electric force is therefore drawn to the arteries and passes through them, producing simultaneously, in accordance with a well-established principle, a contraction of the nervous and muscular fibres with which the highly electrified blood is associated. 2. The electric current in its passage through the arteries in proportion to its electromotive force carries with it the blood which they contain, and on leaving the body deprives this arterial blood of its active magnetic properties. This removal of the magnetism seems to be effected partly by the union of the oxygen with other bodies, through which compounds are formed which are

[1] THE LANCET, July 27th and Aug. 3rd, 1895.

[2] This fact I experimentally determined in 1875. Vide Proceedings of the Royal Society, 1875, No. 157.

not magnetic, and partly also by the actual sweeping away of the oxygen in the rush of the electric current and by its attractive force. But, whatever may be the exact manner in which this change is accomplished, the absence of oxyhæmoglobin in the blood after death by electric shock is a fact beyond dispute. Thus a large quantity of deoxydised blood is at once pressed into the venous system, which by it becomes completely gorged. This engorgement of the right side of the heart appears, therefore, to take its origin partly in the great inequality produced by the current between the muscular forces in the two sides of the heart, partly in the rapidity of the process by which the blood is carried through the arterial and into the venous system, and partly in the fact that the heart loses all power of action beyond that which is due to the immediate effects of the shock.

I have stated that it is impossible to separate the physics of the cause of death from electric shock from the physics which are continuously operating to maintain the phenomena of life. I will now endeavour to prove this statement. 1. The magnetic charge in the arterial blood exceeds that in the venous blood in proportion to the oxyhæmoglobin which the arterial blood contains. 2. Magneto-electric induction determines that a current of electricity is generated in a wire by the motion of a magnet across it. 3. The coats of the arteries are composed of muscular, nervous, and fibrous structures which are brought into most intimate relation with the blood corpuscles. Now the physical laws just mentioned must obtain as certainly and as perfectly in the living body, where motion prevails naturally, as they do in inanimate matter, where the motion may be artificial. 4. But there is another great principle of the same nature which materially assists in the production of these results. The earth is a great magnet, and lines of magnetic force are constantly passing away from every portion of it. (This fact is very readily proved by connecting the two ends of a strand of wire with a galvanometer, and then sweeping the middle portion of the wire through the atmosphere. A current of electricity is generated in the wire, and the movement of the galvanometer needle is in proportion to the direction in which the sweep of the wire has been made, being greatest as the sweep has been more immediately to the north or to the south.) Thus these lines of magnetic force pass at all times through every form of matter, animate or inanimate, and every moving body, such as the blood, must of necessity collide with some of them. The nature, therefore, of the blood corpuscles, on the flow of which the energy of every living animal depends, is determined in this respect partly by the magnetic force of the oxyhæmoglobin and partly by the rapidity with which they traverse any given space and strike the lines of the earth's magnetic force; and the character and amount of the current energy originated in any living animal by the motion of its blood depends upon the nature of the blood corpuscles, and also upon the number of the corpuscles which are passing at any given moment over a nerve or other conductor of the impressions. We thus perceive how marvellously the capillary circulation is adapted for the generation of the amount of force which is required to maintain the molecular and chemical changes which are effected in the structures of those animal bodies; and we thus arrive at the physical cause of that perfect law of animal life that the vital force of every animal is in exact proportion to its requirements. So during the process of life under normal conditions the currents of energy through the nerves and the countless changes and operations of animate being take place in exact accordance with the animal's natural requirements, being all alike produced and characterised and regulated by the peculiar constitution and motion of its blood. But in the case of death by electric shock the current in proportion to its quantity is productive of abnormal and disruptive effects; for, to quote Dr. Hedley's words, "a weak current for a long time is a very different thing from a strong current for a short time, although in each instance the joules may be the same."

In conclusion I may allude to the curious fact that, though the stimulating power of oxygen is acknowledged by all, so little attention has been paid by physiologists to the study of its physical properties or of the manner in which it does its work. Now oxygen, and especially ozone, is a highly magnetic substance, and as such it has great power to disturb energy, not so much by its mechanical motion as by the lines of force which pass away from it in every direction; and in this respect it is to the air what iron is to the earth. When this fact is recognised it seems to me impossible to mistake the mode in which it does its work in the living body.

As my theory shows that natural vital phenomena are maintained by the blood corpuscles constantly inducing magneto-electric currents in the nerves, it will be seen that the extent of those pathological conditions which result from electric shock must be in proportion to the degree in which the shock exceeds the natural production of the current. Indeed, upon this principle it will be found that the variations in the pathological conditions which have been seen by different observers are to be attributed partly to the extent of the shock and partly to the physical condition of the individual when subjected to it.

I am, Sirs, yours faithfully,

Reading, Aug. 14th, 1895. RICHARD C. SHETTLE.

*** The important *rôle* assigned by our correspondent to the passage of magnetic lines of force through the body is not supported by the experimental work which has been done in submitting men and animals to the influence of the strongest available magnetic fields. If death from electric shock were simply a violent disturbance of the normal magnetic lines of flow through the body, we should at least expect marked physiological effects in animals placed in strong magnetic fields of large electro-magnets, for under these conditions the lines of magnetic flow through the body are completely altered. No such effects, however, are manifest, the man or animal placed under such conditions being completely unconscious that anything abnormal is going on.—ED. L.

"THE GRIEVANCES OF THE TELEGRAPH SERVICE CLERKS."

To the Editors of THE LANCET.

SIRS,—I have to thank you for the energetic remarks you make in THE LANCET of Aug. 31st upon the absence of any reliable official statistics concerning so important a matter as the health of the large bodies of men employed by the Post Office. As you appear, however, to be under a misapprehension concerning the reliability and typical value of certain statistics that I used in my evidence before Lord Tweedmouth's Committee I should be glad of an opportunity to explain. As the chairman of our association in London is secretary to the United Kingdom Postal and Telegraph Service Benevolent Society you will understand that we are in a position to estimate to the full the value of this society's returns. In the first place I would remind you that all the clerks employed in the Telegraph Service pass two severe medical examinations before receiving their appointments, and this is held to be so good a guarantee of sound health that insurance companies such as the North British offer to insure their lives at a reduced premium, and until this year without any further medical test. The misnamed "Benevolent" Society exacts from all entrants a declaration of health, which is supported by the testimony of another member of the society whose interest it would be, under the method of payment of premium, to exclude as far as possible all bad lives. The society, therefore, far from suffering from any "adverse selection of risks," is particularly well protected from damaged lives, and represents, as I contended in my evidence, "not the least frugal and careful of the employés." Under these circumstances I think you will be willing to admit that, pending the appearance of fuller and perhaps better statistics, those I used are certainly not *nihil ad rem*, but, on the contrary, distinctly *ad rem*. I must add that my figures are drawn from ten years' returns, not one year's, as you state. I am, Sirs, yours faithfully,

Aug. 31st, 1895. CHARLES H. GARLAND.

*** We have much pleasure in giving publicity to the above letter, but our correspondent still seems to have fallen short of establishing the authority of the Benevolent Society's statistics. If our information is correct, the rule of which he speaks requiring a declaration of health is of comparatively recent introduction, and can have had but little effect upon the mortality experience of the last ten years. The society, as we understand, was founded somewhere about fifteen years ago, and at that time and for some years afterwards, during a period of very large and rapid growth, it accepted all comers, subject only to the condition mentioned in our article of the 31st ult. In the second place, the protection supposed to be afforded by a declaration of health and the

certificate of a personal friend is of quite unproved and very doubtful efficacy. It is certainly a very poor substitute for medical examination.—ED. L.

"SUPERNUMERARY MAMMA IN A MAN."

To the Editors of THE LANCET.

SIRS,—The case of supernumerary mamma published in THE LANCET of Aug. 24th by Mr. W. F. Adams is, I think, highly anomalous. Unusual cases of this kind certainly ought to be sharply criticised before they are definitively accepted. Under these circumstances it is regrettable that Mr. Adams has not described the abnormal structure with rather more detail and precision. In spite of this, however, I have no doubt his diagnosis is correct, for it is confirmed by analogies. The condition is one of extreme rarity, for supernumerary mammary structures—so common in the thoracic region—are hardly ever found in connexion with the lower half of the trunk. A very thorough search has brought to my knowledge only eight cases of this kind. Nearly all of these were ventral in position, the redundant structures occupying the front of the abdomen in one or other of the axillary inguinal lines. However, in two cases they occupied a dorso-lateral position, as in Mr. Adams's case. It seems to me that Schultze's recent observations on the development of the mammæ in certain multimastic animals throw light on the mode of occurrence of these rare anomalies. He finds that the first mammary rudiment presents as a linear thickening of the epidermis, extending on each side from the base of the evolving anterior extremity to the inguinal region. This is the "mammary ridge," or common rudiment of the mammary glands. At first it lies nearer the dorsal than the ventral surface. In its course spindle-shaped thickenings appear, whence the mammæ of the adult are evolved. After a time the connecting strands usually disappear, and only the lenticular thickenings are left. This dorsal position of the mammary rudiments is not long retained, for migration to the ventral surface soon takes place. Although the presence of "mammary ridges" has not yet been demonstrated in the human embryo, we may, nevertheless, with tolerable certainty infer their existence from a knowledge of the facts of polymastia. It seems probable that these dorsally placed mammary structures result from abnormally developed glandular rudiments arrested while migrating to the ventral aspect of the abdomen. In females abnormally placed glands sometimes attain considerable size and secrete milk; but this is quite exceptional. In men they are invariably rudimentary. The great size of the redundant structure in Mr. Adams's case is unique and suggests gynæcomastia.

I am, Sirs, yours truly,

Preston, Sept. 7th, 1895. W. ROGER WILLIAMS.

"SPECIALISM IN MEDICINE."

To the Editors of THE LANCET.

SIRS,—I beg leave to differ from the views entertained in his letter in THE LANCET of Aug. 24th by "A Specialist," "that in all cases of difficulty and chronicity ..... the 'specialist' should be consulted." Any good all-round physician or surgeon should be much preferred for many reasons; his advice would be more valued, he would be more reliable and equally, if not more, competent, especially when we are aware that the "specialist"—so-called—*does not* stick to his specialty, but attends *all* cases ushered into his consulting-room. This is not honest. Were the "specialist" to strictly adhere to the particular branch which he has chosen he would be held in higher estimation by the general practitioner and the public alike than he is at the present time. Undoubtedly we should have the aurist, the dentist, and the oculist, but this should be the limitation of specialism in medicine. When a student in Charing-cross Hospital (1869-1872) I well remember the late Dr. Silver, the lecturer on physiology, taking for his subject on one occasion, instead of his usual lecture, "Specialism," when he illustrated to his class how misleading it was and instanced the case of a young lady who perchance called at the residence of a "gynæcologist" for disease of her eyes. The "specialist" bid his fair patient to recline on his couch, when he applied the customary caustic to the os uteri. These applications were from time to time repeated, until the medical man, perceiving that his patient was becoming dissatisfied by being subjected to such a peculiar form of treatment for the complaint for which she had sought his advice, informed her that he "was most happy to say that she was now quite well." "But," quoth the lady, "the object of my visit to you was to consult you about my eyes." Many old Charing-cross Hospital men may not have forgotten this particular lecture of Dr. Silver; nay, they may probably recollect it better than his customary lectures on physiology—albeit these were both instructive and interesting.—I am, Sirs, yours faithfully,

J. FFRENCH BLAKE,
Formerly Resident Medical Officer, Charing-cross Hospital.

Aug. 30th, 1895.

To the Editors of THE LANCET.

SIRS,—"A General Practitioner," in his communication in THE LANCET of Aug. 31st, thinks that specialists have almost a monopoly of dishonesty in the profession, the dishonesty consisting in the exaggeration of the seriousness of complaints and consequent unnecessary length of treatment. My experience has been different; I have found the same dishonesty in general practitioners. Before becoming a specialist I was some fifteen years in general practice. In that time I lost various patients through the exaggeration of general practitioners—e.g., I was attending a child with the slightest of simple sore throats, when its mother was told by a neighbouring practitioner that the patient was suffering from diphtheria, according to her statement; though when I taxed the practitioner with saying this he said he used the term "diphtheritic sore throat," which was perfectly misleading and wrong. This exaggeration with the consequent prolongation of treatment is far too common, and more so, I believe, among general than special practitioners. The latter are more exposed to criticism, their work is judged by the ordinary medical attendant of patients, while "the family doctor" is autocratic in many cases without any critical supervision. One class of practitioners I have found specially given to this vice; I refer to homœopathic ones. These exaggerate systematically and recklessly; I have heard an illness called intermittent fever where there was not a sign of ague; others have been termed remittent fever, and "typhoid fever of the kind that gave way to medicine"—a gem in its way. But these are out of the pale of ordinary practice, of course. The profession might lose in money but would gain in respect if exaggeration were avoided as much as possible. It is a fruitful source of differences and disagreements among medical men and leads many to seek glory and gain at the expense of both their patients and their fellow practitioners. But I have yet to learn that it is peculiar to the much-abused specialist.

I am, Sirs, yours truly,

Sept. 4th, 1895. A SPECIALIST.

THE VOLUNTEER MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—I feel sure that many Volunteer medical officers will be glad to know that the representations made to the War Office authorities by Surgeon-Lieutenant-Colonel Baines and others have been successful in producing a modification of the stretcher bearers' badge for regimental stretcher bearers of Volunteer corps. I cannot, however, agree with the description of the modified badge which Surgeon-Lieutenant-Colonel Baines gives in his letter published in THE LANCET of Aug. 31st, in which he states that the groundwork is to be of the same colour as the tunic. Reading from the memorandum issued by the War Office to all commanding officers of Volunteer corps I find that the groundwork of the new badge is to be white. If it was of the same colour as the tunic the badge would be visible at a very short distance only.

I am, Sirs, yours faithfully,

R. R. SLEMAN,
Aug. 31st, 1895. Surgeon-Captain, "Artists" R. V.

DISCUSSION ON NERVE DEAFNESS IN THE SECTION OF OTOLOGY OF THE BRITISH MEDICAL ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—In regard to one or two points in my introduction to the discussion on the treatment of the various forms of nerve deafness I do not appear to have made myself perfectly

clear, and I will ask you to allow me to amend with the utmost brevity the otherwise excellent report of my remarks which was published in THE LANCET of Aug. 24th. 1. The use of Delstanche's rarefacteur was advised in *labyrinthine disturbance due to sudden loud noises or explosions* for the purpose of restoring to a normal position the indriven tympanic structures and stapes. 2. Pilocarpin is not contra-indicated in *inflammation of the auditory nerve due to meningitis*, but, on the contrary, is to be recommended in recent cases in view of the fact that the labyrinth is usually implicated. 3. In the use of the galvanic current in cases of nervous tinnitus the *positive pole* should be applied to the tragus, and not the negative, as stated in your report. When one ear only is being galvanised the current should not exceed from two to four milliampères, and it is only when the current is divided between the two ears, both being treated at the same time, that it is at all advisable to double the strength of the current. 4. In my conclusions I was anxious to draw attention to the *functional element* in many cases of nerve deafness, which explained disappointments and successes in treatment otherwise difficult or impossible to account for. I should like, finally, to acknowledge my indebtedness to Professor Gradenigo for the excellent classification of the various forms of nerve deafness given in his exhaustive article in Schwartze's "Handbuch der Ohrenheilkunde."

I am, Sirs, your obedient servant,

Upper Wimpole-street, W., Aug. 30th, 1895. DUNDAS GRANT.

"OVER-OPERATING IN GYNÆCOLOGY."

To the Editors of THE LANCET.

SIRS,—The interesting letters of Dr. W. Duncan and Mr. Malcolm, published in recent issues of THE LANCET, on "Over-operating in Gynæcology" raise several questions. One of them—viz., the provision in every hospital that the patient who is to be the subject of an operation shall have the benefit of the opinion of a physician who does not operate—is of great importance and has been significantly favoured by you on several recent occasions. I agree entirely with Mr. Malcolm that all patients should have the advantage of a consultation in cases of doubt with someone not personally interested in operating. It is no disparagement of the surgeon to ask him to accept this principle. The very splendour of his achievements and the enormous improvements in his art make such acceptance reasonable. These improvements have led to operations which twenty years ago were not dreamt of. A large proportion of these operations have been justified by their results; but the alternative of success is often death within a short time, a much shorter time than would represent the chance of life from the disease for which the patient seeks treatment. The choice of such an alternative is one in which the patient can have no sound judgment. He or she is at the mercy of the surgeon. And though I should uphold the humanity of the surgeon against that of most other men I maintain that both in his interest and in that of the patient the question of operating should not rest with him, but should be determined by a consultation and the concurrence of those who have no kind of interest in the mere operation. The consultation should include, whenever practicable, a medical practitioner from the outside who knows the patient and his circumstances. But in any case it should include a colleague who does not operate and who views the matter from the non-operating side of medical work. There are, of course, many cases in which the strict application of this principle would be unreasonable, such as cases of strangulated hernia, accident, &c.; but in all doubtful cases and in all cases involving serious mutilations and loss of function its application should be imperative. It is undeniable that operations with such consequences are occasionally called for oftener than surgeons of a very conservative turn are ready to admit; but when surgery has to mutilate so seriously it should surely surround itself with the gravest sanctions. This is the clear ground of the confidence of the public in our profession and in the hospital system. The rich man and his family have this security. The poor think they have it in the nature of the voluntary hospital system, which provides, not a single officer for the treatment of all cases, but a staff of physicians and surgeons who can assist each other and check each other. This is the enormous advantage of the voluntary hospital system over mere State infirmaries or hospitals, and those who wish well to the voluntary system will respect it more and more. The surgeon who does not recognise this restraint on his unbounded freedom is not worthy of office in an institution so unboundedly trusted by the public and the poor. Trusting that these views will have your support,

I am, Sirs, your obedient servant,

Sept. 7th, 1895. OBSERVER.

"COUNTRY PRACTITIONERS AND LOCUM-TENENTS."

To the Editors of THE LANCET

SIRS,—In the correspondence columns of THE LANCET of Aug. 31st a serious complaint is made against locum-tenents. Having on many occasions held such posts I should like to give my experience. Twelve times I have been employed, with the result that in eleven instances my services were appreciated and I was re-engaged. I was treated with every consideration, and I believe I gave the fullest satisfaction, as I am still on most friendly terms with all. My last experience was different. From an agency I received at a moment's notice an engagement at £4 4*s.* a week. On my arriving I found the practitioner had left, leaving an untidy woman to come in occasionally during the day to see if I required anything. The consulting-room (and my only sitting-room) was the kitchen, and the surgery the scullery, where, besides dispensing, this maid-of-all-work cooked what I required. As my employer left no address I was bound to remain. Upon his return, although I did my best under the circumstances, I was informed that I had neglected his work, and abuse commenced. However, I was enabled to insist on my full salary, and I left him with no regret. Doubtless, however, he represents me to my profession as an undesirable locum-tenent. I found the medical agency quite satisfied with the explanations I offered, and great regret was expressed. If general practitioners are only willing to pay a proper salary of £3 3*s.* a week good men are sufficiently plentiful to supply all they need, but indifferent pay leads to discontent, and it is not to be wondered at that serious complaints should arise. The locum-tenents are at the mercy of their individual employers, who can seriously injure them, and I regret to hear not infrequently this has occurred. Medical assistants are employed on similar dangerous ground and need protection. They are at the mercy of one man who might ruin them. I once undertook a medical assistantship. After remaining nine months I left as my principal was generally unfit to perform his duties. My reason for leaving was that I was owed four months' salary, and after frequently applying for it never received an answer and finally had to employ solicitors. By this means I obtained it, but a reference for further work was refused. However, his patients and others, amongst them medical men, gave me a most satisfactory testimonial. I had means, so I could fight him; but what would have been my position if I had been otherwise? Since I have heard his previous assistants had similiar experiences. By all means let us see if we can ensure reliable locum-tenents to be available; but equally as important is it that effort should be made to stop "the sweating system" which locum-tenents and assistants are suffering from. It dishonours our profession, lowering the prestige which it is the first duty of one and all to uphold.

I am, Sirs, yours faithfully,

Sept. 9th, 1895. LOCUM-TENENT.

MEDICAL STUDY IN GERMANY.

(BY OUR BERLIN CORRESPONDENT.)

THE following article ought to have appeared in our Students' Number, but was unfortunately crowded out owing to the great pressure on our space. The subject, however, is full of interest, not only to those still *in statu pupillari*, but to all medical men.

Academical life and the study of medicine are quite different in Germany and in England. It may, therefore, be of interest to English medical men and students to know how their professional brethren in Germany are trained, how they acquire a knowledge of medical science, and finally what they are expected to learn before they are made duly qualified practitioners. A young man desiring to enter on an

academical career with a view to becoming a clergyman, lawyer, medical man, or doctor of philosophy has to make up his mind at a somewhat early age, for he has previously to be educated in a so-called "gymnasium." These schools, whose name recalls the recreation-grounds of ancient Greece, have, however, nothing in common with the athletic sports of antiquity; in them it is the mental and not the bodily powers which are actively exercised. After at least nine years' stay in the gymnasium the aspirant has to pass a very severe examination in presence of a Government commissioner. This so-called "Abiturienten-Examen" includes Latin, Greek, French, German, mathematics, history, geography, and theology. This examination alone entitles young men to enter upon one of the above-named branches of academical study. Although it is not the purpose of the present article to criticise the method of education in Germany, it may be remarked that the training in the gymnasia, which is perfectly appropriate for the other academical careers, is not a fit preparation for medical study. Sciences such as chemistry, physics, and natural history are much more necessary for medical men than Greek is, and yet, strangely enough, the former subjects are very little or not at all taught in the gymnasia, and are not required for the final examination. There are plenty of schools (Realschulen) where these subjects preponderate, but the pupils of such schools have not the right of becoming medical students. The "Realschulen" have for a long time been striving to obtain the same privileges as the gymnasia, but their efforts have hitherto been unavailing. To become a medical student the young man has to apply to one of the twenty-one universities of the empire, show the certificate he has received from the gymnasium, and become "matriculated"—i.e., enrolled in the register of the university. Then he has to "belegen" the lectures he intends to attend—i.e., to pay the fees. In Germany no general fee is paid for medical education, but students have to pay for each lecture and for each course separately, which makes study—especially that of medicine—rather expensive. These formalities duly performed, the student, who at the gymnasium has been under very strict supervision, at once begins to enjoy absolute liberty. Nobody cares either what he does, or how he works, or whether he works at all. Only the subsequent examinations prove whether he has been a model student or has belonged to the types described by Sir J. Russell Reynolds in his genial lecture[1] as Superficialis Hurry or Vane Velox. Many of the young men in consequence of this unrestricted liberty fall into disolute habits, from which some may eventually escape, but by which others are permanently lost to society. Well-to-do students are in the habit of joining a fashionable "Verbindung" (students' association), a circumstance which does not materially assist them in prosecuting their studies. There are no precise regulations as to the method of medical study; students are entirely left to their own discretion in respect of the lectures they may attend, and a young man, if he is foolish enough, may begin his curriculum with obstetrics and finish it with anatomy or physiology. In nearly all the universities the students, however, receive printed notices at the matriculation, in which the most advisable course of study is described. Students very often go from one university to another, and it is a usual thing in Germany for a student to have been in four or five universities. Some change their universities without any special or valid reason, but others do so in order to follow the lectures of the best teacher of each subject, in which case hardly anything can be said against this custom. The course of study lasts five years and is divided into two parts. During the first two years the so-called preparatory sciences are to be learned: anatomy, physiology, chemistry, physics, microscopy, dissections, botany, zoology, &c. The university dissecting-rooms are generally very well kept and a large supply of subjects for dissection is provided. The chemical, physical, physiological, and other laboratories are often, especially in the larger universities, models of their kind. After two years' work the students may present themselves for the first examination, the so-called "tentamen physicum." This examination, which is merely theoretical, includes anatomy, physiology, chemistry, physics, and natural history. It may be taken at a later period than the close of the second year, but judicious students usually pass it before they begin the second part of medical study. The last three years are occupied with lectures and courses on surgery, materia medica, therapeutics, midwifery, and the other special branches of medical science. The difference between German and English methods is very great even in this part of the student's career. In German medical education theory is predominant even in clinical matters. At the clinical lectures the students seldom have an opportunity of examining the cases for themselves, and the medical staff do not like to see students in the hospital wards except during the lecture hours. Many rare cases may be seen and the students may hear the diagnosis explained in a very genial manner, but they are seldom permitted to approach the bed of a patient. It is true that these drawbacks do not exist in the smaller universities; they are to be found chiefly in the larger ones, and there is a remedy for them in the great number of private lectures given by "Privat-docenten" in private hospitals and out-patient departments. These private courses are often followed with much more zeal and regularity than the official lectures. Very few students are lucky enough to become clinical clerks or dressers, and as there is no formal competition it may happen that the most clever are not always chosen for these appointments. After five years' study students are eligible to undergo the "Staatsexamen," by passing which they become duly qualified practitioners. For this examination certificates are required that the candidate has passed the "tentamen physicum," that he has attended the medical and surgical clinics for two half-years, and that he has been present at four confinements. The examination consists of several different parts, called "stations," and is both theoretical and practical, the candidate being obliged to make a dissection, to perform an operation, and to examine patients in the surgical and medical wards in presence of the examiners. As no new "station" may be begun till the previous one has been passed, the duration of the examination is sometimes rather long. A candidate who has been rejected may repeat the "station" twice; if he does not pass the third time he must give up all hope of becoming a medical man. The Staatsexamen does not confer the title of Doctor, for which there is a separate examination. This may be taken either before or after the Staatsexamen, and being merely theoretical is much easier than the latter; but it is much more expensive, as the fees are very high and the candidate must have a dissertation or thesis printed at his own expense. A full description of all the mediæval formalities observed at the conferring of a medical degree would be too long for the compass of the present article. The examination for the degree of Doctor does not give a right to practise unless the Staatsexamen has also been passed. Foreigners are admitted to the former examination exclusively, and not to the latter. Some foreign medical men, however, who have got a Doctor's diploma at a German university make their friends at home believe that they are qualified German practitioners. Attempts have been made either to abolish the examination for the degree of Doctor or to combine it with the Staatsexamen, so that every duly qualified medical man may call himself M.D.; but although this arrangement has for a long time been in force in Austria and has given general satisfaction there, the universities of Germany have successfully resisted the innovation.

[1] THE LANCET, Jan. 5th, 1895.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Medical Man, Coroner, and Policeman.

A CASE occurred at the City Coroner's Court on the 21st ult. showing the inconvenience that a medical man may be subjected to under the relations at present subsisting between that court and the profession. The acting deputy coroner (Mr. Louis J. Aitken, barrister) informed the jury that he had received a report of the sudden death of a publican who had lived in Great Ancoats-street, and said that if the medical man who attended the deceased would sign a certificate of death an inquest might be dispensed with. He asked Mr. Macneilage, who was in court, if he would give the necessary certificate. The medical man said it was the first time he had had to appear before that court, and he wished to ask if he was to regard a verbal message as the equivalent of a formal summons. The deputy coroner said that his not having been formally summoned was purely a matter of courtesy, and that if he wished to be summoned an inquest would have to be held. In answer to an inquiry by Mr. Macneilage, who said he was speaking purely in the interests of his profession, as to whether he should be

entitled to his fee, having come in response to a verbal message—"Is my fee secured by a verbal message?" he was told: "To be enabled to give you your fee I must hold an inquest." It then transpired that the deceased had been a patient for some time, and that Mr. Macneilage had been called to him two hours before his death and was prepared to give a certificate of death; that he was awakened at half-past one the next morning by the night-bell ringing and found two policemen, who asked if he were Mr. Macneilage, and said they wanted him to come here (the coroner's court) "and speak to the death of John Ruvane." No wonder the medical man was annoyed at such an unnecessary disturbance of his night's rest, and he was reported to have used words "in the nature of a threat" towards the coroner. This the medical man repudiated: "It was not so, sir. You can understand that when a message comes through a blue-coat it is often perverted." In the end the certificate of death was given; the inquest was not held. The deputy coroner promised that in future the medical man should be formally summoned, but that his fee on this occasion could not be granted because there was no inquest. The deputy coroner, addressing the officers of the court, said that to disturb a medical man at half-past one in the morning was a most improper proceeding, and the officer had exceeded his duty. Though not without its humorous aspect this narrative shows how much annoyance and loss of time are sometimes caused by fussy and over-zealous officials attached to coroners' courts.

Death from Vegetable Poisoning.

An inquest was held on the 21st ult. on the body of a little girl six years of age who went into Gorton Park and the fields adjoining on the day but one before, and, according to her statement, ate some "green sauce." She was taken ill and died the next night. As given in the report in the ***Manchester Courier***, "the medical evidence was to the effect that henbane, which grows wild, would produce the symptoms exhibited by the deceased when she was taken ill, but not the leaves of sorrel nor poisonous fungi. Death was due to eating some vegetable poison. A verdict of 'Died from misadventure' was returned." This does not seem quite satisfactory. Henbane is a comparatively rare plant, not likely to be found in Gorton Park or its vicinity, and its appearance, moreover, would probably repel rather than attract the child. The symptoms are not described. It surely would not be difficult to examine the locality carefully and ascertain what poisonous plants grow there.

Salford Union Infirmary and its Inmates.

Though the Salford guardians showed little anxiety as to the physical well-being of the children from three to nine years of age who were regaled with potato pie of which the paste, only half cooked, measured in thickness between three and four inches, before the medical officer reported against it, they must not be thought hard-hearted or only semi-civilised, for at a recent meeting of the infirmary committee the clerk read a letter from the Local Government Board adverting to one from the guardians "requesting their consent to the substitution of the word 'patient' for the word 'pauper' in the form of bed-card prescribed by the regulations for the management of the Salford Union Infirmary, and to inquire the reasons which have led the guardians to make this application." One guardian said the word "pauper" as applied to the inmates of the infirmary was detested by the board and the people of Salford. Another said he had not heard that the people of Salford wished the word "patient" used. It was a workhouse hospital and a pauper institution, and "if they removed the word 'pauper' from their rules they would open the way to persons who should be treated elsewhere." Mr. U——: "Such people come here now." Mr. S——: "They have no business to come to a place which is maintained by the rates. If a man is a pauper it is no injustice so to describe him." It is gratifying to find a sensitiveness so charming among the guardians, even though sentiment flourishes at the expense of logic; for it was moved and carried that the word "patient" should be used instead of "pauper." But how comes it, as asserted, that "patients" who are not "paupers" use this "pauper hospital"? Does this indicate another hospital abuse? The clerk said his reply would be that the guardians did not like the word "pauper," especially as it was a sick hospital, "and further that the word was not sufficiently expressive." The last reason is curious, as they seemed to think it so expressive that it must be banished from their vocabulary.

Autumnal Diarrhœa.

With the gradual increase in the ground heat there has been an increase of diarrhœa, from which young infants have suffered seriously. In his last weekly report Dr. Niven says that on the previous Saturday (Aug. 24th) "the slow-acting thermometer, suspended at a depth of four feet from the surface, attained its highest point this season—viz., 59°." In the six preceding weeks the deaths from diarrhœa and English cholera rose from 9 to 47 per week, and in that ending on the 24th ult. they rose to 59, and of these 47 were among infants under a year old. During the past eight weeks 231 deaths have been registered, "and of this number 171 had not completed their first year of life."

The Port Sanitary Authority.

An intimation has been received by the local sanitary authorities of the districts on the banks of the Ship Canal to the effect that the Local Government Board are of opinion that arrangements should be made for an investigation of the proposal that a joint board should be constituted to act as the port sanitary authority for the Customs port of Manchester. The Local Government Board consider that it would be necessary for such a port sanitary authority to come to some arrangement with the port sanitary authority of Liverpool with a view to dealing with infected ships arriving in the Mersey and intending to pass up the Ship Canal, and also with ships on which cholera may break out after they have entered the canal, and they suggest that a conference of representatives of the riparian authorities on the canal should be held to discuss the question.

Sept. 3rd.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Death of the High Sheriff of Northumberland.

AT his house, the Chesters, on Thursday, Sept. 5th, died Mr. N. G. Clayton, the High Sheriff of Northumberland. On Sept. 5th, 1751, the foundation stone of the infirmary at Newcastle was laid, an ancestor of the deceased gentleman, Mr. W. Clayton, being sheriff. Ever since its foundation the Clayton family have taken an interest in the institution, and Mr. N. G. Clayton was no exception, he having been on the committee of management for upwards of twenty years and always an active and liberal supporter of the charity. The Claytons are an old Yorkshire family, and there is no name more respected than theirs in the town of their adoption. It may well be so, for there is no charitable institution in Newcastle with which the name has not been for long associated.

Site for a New Infirmary, Newcastle-upon-Tyne.

This question seems no nearer settlement than it was four or five years ago. The governors have asked the civic authorities to give them, or to assist them in procuring, a new or an enlarged site; but so far, though the city council expresses sympathy and says it will do what it can to assist, both propositions made by the infirmary authorities — first for a new site on the Leazes, and secondly for a portion of the cattle market to augment the present site—have been refused in the one case and reported upon adversely in the other. It seems that the cattle market in Newcastle-upon-Tyne cannot be moved out of the centre of the city, though an equally convenient site could readily be found for it on ground belonging to the town, because there are vested interests which would suffer. There are many reasons, however, why the cattle market should be moved. The driving of droves of cattle through the main thoroughfares of a populous city on two or three days a week is inconvenient and not free from danger—indeed, many serious accidents have been treated in the infirmary owing to foot-passengers being gored by bulls. Sooner or later, there can be no doubt, the cattle market will be moved, and should, unfortunately, a prominent citizen be injured by an excited beast perhaps the transfer would be sooner than later. In another month the city council will consider the report of the Finance Committee, presented on Sept. 4th, recommending that no ground should be given to the infirmary for the purpose of enlarging the present site—a report characterised by Mr. Alderman Richardson as "a very one-sided report."

The Newcastle-upon-Tyne City Lunatic Asylum.

The annual report of the above has just been issued. In

It the commissioners express themselves as well satisfied with the condition of the patients and of the wards, and draw attention to the fact—eminently satisfactory—that "no mechanical restraint" has been employed and only one patient placed in seclusion during the year. The daily average of patients has been 463, of whom 47 were epileptics. Sixty per cent. of the males and 71 per cent. of the females had been usefully employed during the year. Dr. James Callcott, the medical superintendent, states the percentage of recoveries to have been 33·6; the deaths were 41, a percentage of 8·8. The coroner held an inquest in one instance only, and a verdict of "Death from natural causes" was returned. The enlargement of the institution is being rapidly pushed forward.

Death of Mr. Chas. Mitchell, LL.D.

Dr. Mitchell, who has just died at Jesmond Tower, has left an enormous fortune of some £2,000,000, all made by him on Tyneside. Dr. Mitchell built one of the most sumptuous churches in the North of England, near his residence, and presented it, together with a fine house for the clergyman, to his diocese, spending some £31,000 in the process. He was also munificent in his gifts to the University of Aberdeen, of which university he was an honorary graduate and had been an under-graduate. By his will the cottage hospital at Walker, built and given by him to the town, receives a legacy of £1000 free of legacy duty.

Entertainment to Nurses.

Sir George and Lady Trevelyan, of Wallington Hall, Northumberland, entertained on Tuesday, Sept. 3rd, a party of nurses from the Royal Infirmary, Newcastle-upon-Tyne. A saloon carriage conveyed them from the Central Station at 8.20 A.M. to Scots Gap Station, where carriages from Wallington Hall awaited their arrival. On reaching the Hall Sir George and Lady Trevelyan received them most kindly, and showed them over the house, with its most interesting collections of paintings and old china. Luncheon was provided at one o'clock, and the guests afterwards spent a very pleasant time in the grounds and gardens, returning to tea in the Hall. Each nurse was presented with a bunch of lovely flowers, and also with a photographic view of the interior and exterior of the house; and, having spent a most enjoyable day, they all returned at 6.30 P.M.

The Dean of Durham, the Very Rev. Dr. Kitchin, has returned much improved in health, and has undertaken to distribute the prizes to successful students at the opening of the University of Durham College of Medicine at Newcastle-upon-Tyne next month.

Newcastle-upon-Tyne, Sept. 9th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Matriculated Students in Scotland.

A NEW regulation with regard to matriculated students under the Universities (Scotland) Act, 1889, has just been published, and is to the effect that no person shall be deemed to be a matriculated student in any Scottish university or shall enjoy the privileges of a matriculated student unless in addition to paying the matriculation fee he is enrolled as a student in attendance in one or more classes of the university and pays fees entitling him to such attendance.

Re-election of Mr. Finlay, Q.C.

Mr. R. B. Finlay, Q.C., has been re-elected Member of Parliament for the Inverness Burghs. Mr. Finlay is a graduate of medicine of Edinburgh and comes of a medical stock, his father having been a practitioner in the neighbourhood of Edinburgh, and he has a brother who is also in practice.

Reported Outbreak of Glanders in Glasgow.

The local health authorities have recently been considering some rather sensational rumours with regard to the presence of glanders in the city. Professor McCall of the Veterinary College has been able to assure the authorities that the rumours are considerably exaggerated, and that every reasonable precaution has been taken to protect the public health. It has been decided to send a detailed statement of the facts to the Board of Agriculture.

West of Scotland Convalescent Homes, Dunoon.

At the annual meeting of this institution the secretary reported that the homes during the year had accommodated 3750 convalescents. The gross expenses per week for each inmate had been 10*s.* 10*d.* In their statement the directors acknowledge the receipt of £500 from Mr. Alex. Sinclair of the *Glasgow Herald*, and a valuable contribution to the library from Sir James King. The Rev. Dr. Donald Macleod, in speaking in support of the annual report, suggested that the well-being of convalescents on leaving hospital might be still further consulted by the conversion of a large ship into a home. This might be anchored off the Island of Arran and would secure for invalids all the benefits of a sea voyage.

The Purification of the Clyde.

The Glasgow Police Commission have decided by a large majority to apply to Parliament for power to proceed with a scheme for dealing with the sewage from the northern part of the city. The estimated cost of the scheme is £600,000.

New Hospital for Infectious Diseases, Glasgow.

The memorial stone of the new Corporation Hospital at Ruchill Park, in the north-west portion of the city, was placed in position on the 30th ult. by Lady Bell, the wife of the Lord Provost. On the invitation of the corporation a large number of medical men and leading citizens were present, but the ceremony was somewhat marred by the extremely wet weather. At the luncheon which followed the ceremony the toast of the medical staff was responded to by Dr. Johnstone, the superintendent of the Fever Hospital at Belvidere, and by Dr. A. K. Chalmers, one of the medical officers of health for the city. The senior medical officer of health, Dr. J. B. Russell, has been laid aside by illness for some months, but his numerous friends will be glad to hear that he is now convalescent and will shortly resume his duties.

Hospital and Nurses' Home for Coatbridge.

The late Mr. John Alexander (a partner of the firm of William Baird and Co., Limited, iron and coal merchants) has in his will left a sum of £30,000 to build and endow a hospital for the treatment of medical and surgical cases in the town of Coatbridge. The institution is to be called the Alexander Hospital, and in connexion with it there is to be a home for trained nurses, who are to work amongst the sick poor of the town and neighbourhood.

Sanitary Association of Scotland.

This association met for its annual congress at Greenock in the last week of August under the presidency of Sir Michael R. Shaw-Stewart, who in his opening address reviewed recent sanitary progress, more especially in rural districts. Amongst the papers read to the association were the following: The Rates of Mortality in Scotland in relation to Sanitary Progress, by Dr. Matthew Haig, Professor of Medical Jurisprudence and Public Health in Aberdeen University; Infectious Diseases in Scotland and Hospital Isolation, by Dr. A. Campbell Munro, medical officer of health, Renfrewshire; the Diseases of Occupations, by Dr. Nasmyth, Ayr; Diphtheria, by Dr. Leslie Mackenzie, Leith; and the Housing of the Submerged Tenth, by Bailie Chisholm, Glasgow. The discussion of these and other papers was taken part in by a large number of the members, who were also given abundant opportunities for seeing the beauties of the Clyde and for cultivating those social developments for which, at least in part, annual conferences exist.

Aberdeen University: the Inaugural Celebrations.

At a meeting of the Senatus held at the end of August it was agreed that, owing to the lamented death of Mr. Charles Mitchell, LL.D., Newcastle-on-Tyne, the ceremonial on the inauguration of the Graduation Hall &c. should be of a comparatively simple character. It has now been agreed that there shall be only one series of ceremonies, not extending beyond two days, and that the date thereof shall be postponed till December out of respect to the memory of the deceased. The Students' Union will be opened without any formal ceremony at the beginning of the present session. Unfortunately, this postponement will prevent the celebrations falling within the period of civic office of Lord Provost Stewart, to whose advocacy and support the progress of the extension scheme has been so largely due. The great "historical window" in the new Graduation Hall is now completed, the finishing touch being put to it last week by Colonel Crawford, who, as the trusted financial head of the great firm of Lord

Armstrong, Mitchell, and Co., has been for half a century Dr. Mitchell's valued colleague. The window, which costs upwards of £2500, illustrates the history of the college by a series of brilliant heraldic and portrait representations of the more notable figures connected with the university. It measures 32 ft. high by 28 ft. broad, and comprises four tiers of panels. The two upper tiers are filled with the arms of George Keith, fifth Earl Marischal, founder of the college; the city of Aberdeen, joint-founder; and of the eleven noblemen who succeeded the founder as chancellors of the college. The second tier consists of three groups of five panels each. The group to the left is decorated with the arms and figure portraits of representative alumni prior to 1700; the group to the right with those of alumni of the period 1700–1800; and the central group with those of alumni of this century, especially of gentlemen prominently associated with the university in the present day. The fifteen panels of the lower tier have the armorial bearings of thirty benefactors of the college, covering a period of nearly 250 years.

The Extensions at Marischal College.

The Sites and Plans Committee of the University Court have approved of plans submitted by Mr. Mackenzie, A.R.S.A., of the tower to be erected at the extremity of the extended north wing of Marischal College fronting Broad-street. The plans show a lofty and graceful structure of dressed granite.

Monument to a Philanthropic Aberdeen Practitioner.

There has just been erected by public subscription in the interior of New Porthill School, Gallowgate, Aberdeen, a mural tablet of Gothic design to commemorate the late Dr. Reith's services in that populous though poor district. The memorial is in grey and red granites, and was designed and executed by Mr. Arthur Taylor, sculptor, Aberdeen. The inscription on the panel is as follows: "To the memory of Archibald Reith, M.D., founder and superintendent of this school, who entered into rest 30th December, 1894, in his 58th year. Consecrating in early manhood the gifts of a rich and generous nature to the service of his Lord, he devoted himself for thirty-four years to the spiritual and moral well-being of the young people of this neighbourhood with single-hearted enthusiasm and self-sacrificing love. By his exertions and according to his plans this building was erected in 1876.—He saith unto Him, 'Yea, Lord, Thou knowest that I love Thee.' Jesus saith unto him, 'Feed My lambs.'"

The Health of the City of Aberdeen.

The following is the return of zymotic diseases notified last week: measles, 1; scarlet fever, 22; diphtheria, 1; whooping-cough, 51; erysipelas, 6; total, 81—being 42 cases more than in the preceding week. The rise is due to an increase in scarlet fever and whooping-cough.

Sept. 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Rotunda Hospital.

THE ceremony in connexion with the opening of the new wing of this hospital, which was announced to take place on Aug. 30th, has been postponed.

Reorganisation of the Army Medical Staff.

An effort to revive the old and vexed question of the position and titles of the Army Medical Staff is now being made in Dublin, whence so many of the present corps of army surgeons have come. A letter appeared on Sept. 2nd addressed to the editor of the *Irish Times*, in which attention is called to the fact that military surgeons have recently been honoured by very frequent mention in despatches, notably in the case of the Chitral campaign, and that they can now claim to have received "the largest proportion of Victoria Crosses in the service." The writer suggests among other changes the following:—The formation of a Royal Medical Corps and the complete control of it by army medical officers. The abolition of the superfluous titles of Surgeon-Lieutenant, Surgeon-Captain, &c., and the substitution instead of Lieutenant, Captain, &c., of the Royal Medical Corps. There is no doubt that army medical men have many real grievances which should be removed. State service, however, is very popular in Dublin. There was a time when, on the other hand, the Medical Department of the Royal Navy was eagerly sought by young surgeons recently qualified at our University and schools. Now, the improved status of medical men in the army and the high-sounding though curious and cumbersome titles which they by persistent agitation have acquired have changed all this. The naval medical authorities have expressed surprise at the small number of candidates who have presented themselves at their examination of late years; but, apart from the causes which have been mentioned, there are other reasons which tend to induce young medical men from here to choose the army in preference to the naval medical service. Naval medical officers, and, indeed, naval combatant officers, are but little known here, and accordingly hold a much less well-recognised social position than their brethren of the army. There is, of course, a naval guardship at Kingstown, but, on the other hand, there are always crack regiments stationed here and at the Curragh.

Queen's College, Belfast: The President's Report: the Students' Union.

The President of Queen's College, Belfast (Dr. Hamilton), has recently presented to Her Majesty his annual report for 1894–95. During the past session 117 students entered the college for the first time, and the total numbers enrolled show that the medical school contributes the great majority. In the faculty of arts there were 145 students, in law 26, in engineering 13, while in medicine there were 212; 15 ladies attended the college. Of the students in attendance 336 came from Ulster, and as regards age 230 were over twenty-one and 156 younger. The President referred with great regret to the death of Dr. McCosh, President of Prince ton College, New Jersey, U.S.A., who for a period of seventeen years occupied the chair of Logic and Metaphysics in Queen's College, Belfast. Queen's College attains its jubilee this year, and the council have resolved that it shall be fittingly celebrated.

The plans for the Students' Union have been prepared by Mr. Robert Cochrane, F.R.I.B.A., F.S.A., and promise a building which will be in every respect well adapted for the purpose aimed at. Tenders have been accepted, and the total cost, with furnishing, will be about £7000. The building will be commenced forthwith, and it is expected it will be ready for occupation by students at the beginning of the session after next.

Death of a Workhouse Fever Patient.

The guardians of the Ardee (county Louth) Union have just received from the Local Government Board their decision in reference to the death of a patient in the Fever Hospital. The Local Government Board say they cannot but regard this case as discreditable and as tending to shake confidence in the management of the Fever Hospital. The patient whilst in a state of delirium escaped from the Fever Hospital at 3 o'clock in the morning with nothing on but his shirt, and was not brought back until almost 11.30 A.M. The exposure to which he was subjected must undoubtedly have accelerated his death, which occurred next day. The Local Government Board consider that the blame in the matter rests with the master and porter of the workhouse, and request the board of guardians to call upon these two officials to resign. It would appear that though warned by the medical officer and nurse the master took no trouble to procure paid assistance from outside the workhouse when he was, as he states, unable to procure it inside. This painful case will certainly tend to strengthen the hands of those who have been recently criticising the provision made for the care of the sick poor in Irish workhouses.

Death of a Lunatic in Lisburn Workhouse.

An inquest has been held in reference to the death of a woman forty years of age who was admitted on Aug. 23rd to the Lisburn Workhouse with acute mania, and who died from bronchitis, syncope, and weakness on Aug. 28th. The coroner said, in addressing the jury, that such cases should be removed from workhouses to asylums, which were the proper places for them and had the proper accommodation for treatment. The jury returned a verdict of "Death from syncope of the heart, the result of weakness and mental excitement," and added that in their opinion "the lunatic department on the female side of the workhouse is in a most wretched, insanitary, and crowded state, and unfitted in every way for the reception of the weak-minded poor who are at present placed there."

Death of Mr. Mark Anthony Savage, M.B. Edin., Newry.

I regret to announce the death of Dr. Savage of Newry.

which occurred on Aug. 29th. It seems that about three weeks ago he went to Wigton, Scotland, to do duty for a brother medical man, an old school friend, and while there in the course of his duty he cut his hand. He thought the wound was healing and returned to Newry on Aug. 28th. He was out that day, but during the night alarming symptoms set in, and, despite every care and attention on the part of Dr. Crosslé and Mr. Smartt, he died from blood poisoning the next day. Deceased, who was thirty-seven years of age and was a graduate of the University of Edinburgh, had served for five years as surgeon on board one of the warships of the Chilian Government, and he came recently to Newry to take up the practice of his late father.

The Battle of the Clubs at Cork.

At a meeting of the Cork United Trades' Association held on Aug. 29th the president alleged that the members of the Cork clubs are systematically boycotted by the city hospitals. He carefully avoided giving details, though he promised they would be forthcoming if the hospital authorities should think fit to make inquiries on the subject. He hinted that the corporation grants might be withheld, and suggested to the mechanics of the city to think twice before they contributed to the Hospital Saturday Fund. After mentioning that one club patient had received "an unsatisfactory reply" at the South Infirmary and that another was refused admission at the North Infirmary he treated his audience to a peroration, in which he asked, Was "such traffic in human lives to be tolerated"? The president happens to be a member of a benefit club, and his anxiety to attack the Cork medical men apparently made him forget that he was addressing a body of trades-unionists. However, no time was lost in reminding him of the fact. One of the members, Mr. Murphy, said that as far as he understood the hospitals were not boycotting anyone, and if he desired admission to a hospital he could go in, and he added that as trades-unionists they should not recognise the imported medical men. Mr. Kelleher considered it was unfair for the president to bring forward such a matter at all, it having been ruled out of order that night week. Mr. Harty considered that they should not entertain the subject at all, and a resolution which he proposed to that effect was carried by twelve votes to seven. A couple of days later leading articles on the subject appeared in two of the local papers, and though the phraseology was different the ideas were precisely the same. The whole tone was, "we can hardly believe the staffs of the hospitals acted in the manner stated, but it looks uncommonly like it." So far I have been able to make inquiries with regard to two of the principal hospitals referred to, and I find that club patients have been freely treated at these institutions. No doubt club patients have in some instances been refused admission, but solely because they were considered to be cases unsuitable for treatment in a general hospital. This incident is regarded by the Cork medical men as an indication that the clubs are sorely mortified by the falling through of the recent negotiations. The *personnel* of the club delegates at the mayor's conference was remarkable. No less than five of them were Oddfellows. One was secretary to a lodge and corresponding secretary to the several lodges in Cork. Another was secretary to a club which embraces numerous rich members, but the poorer clubs had no direct representatives. Hence it is easy to understand why the delegates made such a vigorous fight for the retention of existing members in receipt of over £200 a year. I hear every day of club members feeing private practitioners, and it is only natural to expect that, under the circumstances, the clubs will become gradually decimated. The richer members know this, and they are very anxious for a compromise which will still secure for them medical services at a comparatively cheap rate. However, the Cork profession will not desist till they compel these gentlemen to pay adequate medical fees in the future. When the usual half-yearly grants to the North and South Infirmaries were being considered by the corporation reference was made to the allegations of the president of the Cork United Trades' Association, to the effect that patients were refused admission to those hospitals because they belonged to benefit clubs. Some members of the council voted in favour of the money being withheld pending an investigation, but the Mayor pointed out that the statements were *ex parte*, and ultimately the grants were sanctioned. The governors of the South Infirmary having requested the president to supply further particulars, he gave the name of only one patient, who, on inquiry, was found to suffer from paralysis agitans, and in accordance with a rule of the hospital could not be admitted because his case was incurable. The secretary had absolutely no knowledge as to whether the patient belonged to a benefit club or not, and, moreover, informed the governors that several club patients have been treated in the hospital. The authorities of the Mercy Hospital have already contradicted the statements with regard to the institution under their control, and the governors of the North Infirmary will probably not be slow to follow their example.

Viceregal Visits to Hospitals.

Her Excellency the Countess Cadogan has recently visited many of the Dublin Hospitals, including the Adelaide, with its children's ward and its "nurses' home"; the Children's Hospital, Temple-street, under the charge of the Sisters of Charity; the Dublin Orthopædic Hospital, where her Excellency was conducted to the gymnasium, with which she was much pleased; and the Rotunda Lying-in Hospital, which is, of course, one of the largest of its kind in Europe, if not the very largest. Lady Cadogan was conducted through the wards of this great maternity hospital and graciously promised to attend the opening in November of the new wing, which she considered "would be a valuable addition to what is now one of the finest institutions of charity in the city of Dublin." Her Excellency has, indeed, been indefatigable in her wish to extend her patronage to the medical charities of Dublin. She drove out on Saturday accompanied by Lady Betty Balfour and Captain Algernon Peel to Blackrock to visit the Convalescent Home at Linden, with which she expressed herself as being much pleased. The institution is managed by a community of nuns, and is, with the exception of some sixteen beds which are endowed by the Mullen's Fund, dependent on the voluntary contributions of the public for its existence.

School of Medicine, University of Dublin.

The prospectus for the coming winter and summer sessions of 1895–96 has recently been issued. The Regius Professorship of Surgery has not been filled since the lamented death of the late Sir George Porter. The position of University Anatomist is now occupied by Dr. Charles Ball, in succession to Dr. St. John Brooks, resigned. Mr. Alexander C. O'Sullivan, M.D., F.T.C.D., has been appointed to the long-vacant University Lectureship on Pathology, and he will lecture on pathology thrice weekly during the winter, and conduct a class of "Practical Pathological Histology" during the summer session. Dr. Edward H. Taylor now occupies the position of University Examiner in Anatomy.

Medical School of the Royal College of Surgeons in Ireland.

"A Guide to Medical Students," containing much useful information as to the course they should follow in preparing to qualify for the diploma of the Conjoint Board of the Royal Colleges of Physicians and Surgeons in Ireland and the expense they must incur in the shape of fees &c., has recently been published by the Royal College of Surgeons. From this it will be seen that the school buildings there have recently been reconstructed, the capacity of the dissecting-rooms much increased, while special pathological, bacteriological, public health, and pharmaceutical laboratories have been fitted with the most modern appliances to facilitate the progress of students of medicine. Among novel features is to be seen the announcement that a luncheon-room is now provided, while special rooms have been set apart for the convenience of lady students.

Sir Patrick Dun's Hospital.

Her Excellency the Countess Cadogan recently paid a private visit to this hospital, and was conducted round the wards by Miss Huxley, Dr. Walter Smith, and Dr. C. B. Ball, the governors of the hospital being represented by the Rev. Dr. Haughton. The annual prospectus for the session 1895–96 has just been issued, the only changes in it being the vacancy in the position of consulting surgeon, caused by the death of the late Sir George Porter, and the appointment of Dr. Edward H. Taylor on the surgical staff in succession to Dr. St. John Brooks, resigned.

Maguiresbridge Dispensary.

At a meeting of the Maguiresbridge Dispensary committee on Sept. 4th Mr. Aiken of Kesh was elected medical officer.

Sept. 10th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Death of Professor Luigi Galassi.

WE have lost the dean of our medical faculty in Dr. L. Galassi, Ordinary Professor of Special Pathology in the University, who died on the 31st ult. after a long and painful cardiac disease. Dr. Galassi had a distinguished record as a man of science and as a teacher. He was for many years President of the Accademia Medica di Roma, a member and Vice-President of the Consiglio Superiore di Sanità, Vice-President of the Red Cross, Rector of the University, and President of the Faculty of Medicine. His extra-professional honours were hardly less conspicuous. He was Commendatore of the Crown of Italy and Saints Maurice and Lazarus, Knight of the Crown of Prussia, and the holder of many other decorations of a scarcely inferior order, Italian and foreign. But his life-work was in the clinical ward, the dead-house, the laboratory, and the lecture-room, where his scientific accomplishment and winning powers of exposition and persuasion made him a universal favourite with pupils and colleagues alike. The University displayed its banner, half-mast high and draped with mourning, as soon as his death was made known, and on the 1st inst. a public funeral took place, the pall-bearers being Signor Constantini, Under Secretary of State in the Ministry of Public Instruction; Dr. Panizza, Sanitary Assessor of the Municipality; Professor Monaci (representing the Rector of the University, absent through illness); the Commendatore Silvestrelli, delegate of the Red Cross; the Senator Dr. Todaro, Professor of Anatomy (deputed by the Accademia Medica); Colonel Martinelli of the War Office; Professor Ballori; and Dr. Ciccolini, representing the Medical Aid Society of the Practitioners and Pharmacists of the Province of Rome. The long train of mourners which followed included the leading physicians and surgeons of the city and a numerous body of students, mainly of the medical faculty.

The Petrifaction of the Human Subject.

This, like the cognate art of embalming, is almost an Italian specialty, in which the past master was the naturalist Dr. Girolamo Segato, whose marvellous feats in petrifying the dead and preserving their features and even their complexion for all time are *en évidence* in the Florentine Museum, of which they constitute one of the chief attractions. A highly successful example of his skill—the petrified head of a young woman who had died from pulmonary tuberculosis—had been known to exist, but for sixty years, in spite of every effort to trace it, it was nowhere to be found. His grandsons, anxious to recover this, the last, and perhaps the most striking, specimen of his art, have been indefatigable in the search for it, but without avail until a few days ago, when by the merest chance they alighted on it in Bavaria and immediately took steps, with no small difficulty and outlay, to restore it to the treasures of Italian anatomical science. The numerous "changes of address" it had undergone in those sixty years have done it no appreciable damage; indeed, its preservation is so perfect that in the words of Signor G. Segato fù Andrea, who announces the discovery, "its luxuriant blonde hair, quite wavy and soft, is like that of a living person." Its present provisional place of custody is at Pieve di Cadore, whence it will be transported in a few days to Belluno and kept on view for the inspection of the scientific public, after which it will go either to Florence or, more probably, to some other medical school less rich in specimens of Dr. Segato's peculiar and weirdly fascinating *métier*.

A Health Resort for Rome.

This is no other than Rocca di Papa, 750 metres above the sea level, situated on the southern rim of the Alban Mount, high above all malarious influence. In fact, those who resort to it even when labouring under palustral fever make a speedy recovery from the disease. The mortality of its inhabitants taken from the sanitary returns between 1884 and 1894 has been not more than 18 per 1000, while that of Italy during the same decennium averaged 26·17 per 1000. The air is peculiarly fresh and exhilarating, the walks and mountain paths well shaded, and as for the water (quite recently analysed), it is among the best *acqua potabile* in Italy. The mineral salts are in scanty proportion; ammonia, nitrous acid, and sulphuric acid are wanting; nitric acid exists only in traces; and organic substances are "conspicuous by their absence." Bacteriological examination confirms this favourable finding, while the supply is as abundant as it is pure. The mean temperature may be inferred from the following table, compiled by Professor Lucchesi, director of the Meteorological Observatory on the Alban Mount:—

Average Degrees of Temperature (Centigrade).

—	Ordinary.	Minimum.	Maximum.
June	15·64	12·22	19·41
July	19·53	15·96	23·24
August	19·39	15·97	23·31
SUMMER AVERAGES...	18·19	14·72	21·29
September	15·89	13·13	19·12
October	11·25	8·60	13·81
AUTUMN AVERAGES...	11·45	8·90	14·15

And yet it is only now that steps are being taken to utilise this charming upland village for the benefit of the Roman population, whether as convalescents or in quest of summer quarters. A good railway and good hotel and *pension* accommodation will shortly, I understand, be made *faits accomplis* and Rocca di Papa be restored to the place it had in Republican and Imperial times as one of the "lungs" of the city, not less conducive to physical than to moral rehabilitation.

Queen Margherita and the Italian Hospital in London.

There is on its way to the Italian Hospital in London another token of the interest taken in the institution by the Queen of Italy. It is a photograph of Her Majesty, sent by Queen Margherita herself and bearing the following autograph inscription: "Possano gl'italiani raccolti in questo luogo ritrovare sotto le benefiche ali della carità la patria, lontana nello spazio ma sempre presente nel desiderio del cuore.—Margherita." (May the Italians gathered together in this place under the beneficent wings of charity be able to find once more their native land—distant, indeed, in space, but ever present in the heart's desire.—Margherita.)

A New Health Resort at Vallombrosa.

As I close this letter I hear from Florence that that city is about to have a much-needed adjunct to her medical resources in the form of a new health resort at Vallombrosa. At the instance of his Excellency Signor Barazzuoli, Minister of Agriculture, and of the Director-General under the same department of Government, there will be established at this salubrious and picturesque station in the Apennines an institution for convalescent patients. Its design and construction have been committed to the experienced hands of Dr. Giuseppe Corradi, Professor of Clinical Surgery in the Florentine School, whose competence in all such undertakings is universally conceded. A pure and abundant water-supply will, as a primary requisite, be immediately provided, and every appurtenance, internal and external, for the use of the resident staff and the patients will be in readiness within a year, the period assigned for the completion of the work. In connexion with the establishment Professor Corradi has also undertaken the enlargement and reappointment of the local hotel, well known as the "Croce di Savoia."

Sept. 7th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Cholera in Galicia.

SOME three weeks ago the newspapers announced an outbreak of epidemic diarrhœa among the soldiers in the garrison of Przemysl, in Galicia, and some fatal cases of Asiatic cholera are now reported from Tarnopol. This outbreak is attributed to the impurity of the water in the river Sereth and to infection from the adjacent parts of Russia, where epidemic cholera has of late years prevailed. It has not died out there; it has only been dormant, and has recently manifested itself in a sporadic form in Podolia and Volhynia. The Government has sent sanitary experts to advise as to the necessary measures to be undertaken.

Antistreptococcic Serum.

Dr. Marmorek has published in the *Medicinische Wochenschrift* further details on the streptococcus and the serum

which is not only curative in diseases caused by this microbe but prophylactic as well. As a result of many experiments it has been shown that this coccus may be cultivated in a mixture of two parts of human serum and one part of peptonised bouillon and will maintain its virulence, which may be augmented by a continual passage through the system of rabbits, a dose of 0·000,000,000,01 c.c. (hardly containing more than one streptococcus) being sufficient to kill a rabbit in a short time with symptoms of septicæmia. Some investigators have already succeeded in immunising animals against this microbe by both sterilised and living cultures, the latter producing a higher degree of immunity. The serum is to be taken not earlier than four weeks after the last injection. Its prophylactic energy may be judged from the quantity necessary to immunise a rabbit weighing from 1500 to 1800 grammes against a tenfold quantity of the lethal dose. The serum has been used in numerous diseases caused by the streptococcus—namely, erysipelas (423 cases with a mortality of 3·87 per cent.), angina, phlegmon, and other septic processes. The patient's general condition was advantageously influenced, the temperature being lower and the redness, swelling, and albuminuria being less. In the gravest cases a dose of 20 c.c was injected, followed by 10 c.c. next day, the maximum dose amounting to 120 c.c. Among seven cases of puerperal fever no death occurred, whereas it was given without benefit in cases which were complicated with bacterium coli. Very gratifying results have also been obtained in cases of phlegmon and of pseudo-membranous angina caused by the streptococcus.

Suicide in Vienna.

According to returns made by the Central Statistical Commission the number of suicides in Vienna during 1889–1893 amounted to 1254, equivalent to a rate of 3·2 per 10,000 of the population. Among the corresponding returns of some other Continental towns may be mentioned Paris with 3·6, Brussels with 3·29, Berlin with 2·98, Munich with 1·98, and Breslau with 3·91 per 10,000 of the population. During the seven preceding quinquennial periods 360 cases of suicide occurred in 1854–1858, 367 in 1859–1863, 565 in 1864–1868, 631 in 1869–1873, 1020 in 1874–1878, 1129 in 1879–1883, and 1196 in 1884–1888. Among 100 cases of suicide 77 were men and 23 were women. Adolescents appear to have every year more frequent recourse to this method of terminating their real or supposed miseries, the highest rate being registered at the age of sixteen to twenty-five years. Among 100 suicides 32·5 ended their days by hanging, 23·5 by pistol shots, 22·4 by poisoning, and 5·8 by drowning. With respect to the poisons, cyanide of potassium was resorted to in 12·7 per cent. of the cases, caustic lye in 22·7 per cent., phosphorus in 26·1 per cent., and sulphuric acid in 7·2 per cent. As for seasonal distribution, the proportions were: in January 8·5 per cent., in February 7·6 per cent., in March 8·9 per cent., in April 9·1 per cent., in May 10·5 per cent., in June 8·7 per cent., in July 8·1 per cent., in August 7·2 per cent., in September 7·4 per cent., in October 8·3 per cent., in November 7·8 per cent., and in December 7·9 per cent.

The Inebriates Bill.

The Minister of Justice has at last submitted the Inebriates Bill to Parliament. The medical profession has for a long time urged that the existing laws for dealing with inebriates should be strengthened; it has also long advocated the absolute exclusion of inebriates from lunatic asylums, where they are disturbing elements by reason of their mental superiority. Preceding Governments did not attend to these recommendations; on the contrary, in Galicia, which is a hotbed of alcoholism, it has not infrequently happened that clergymen and other persons who commented on this vice have been reprimanded on the ground that the interests of the distillers might thereby be injured. Thanks to the endeavours of the present Government this difficulty is now apparently overcome, and Austria will have asylums for inebriates such as already exist in Great Britain, in the United States, in Sweden, and in Switzerland. According to the Bill these asylums are to be established either by the State, the province, or the municipality. Detention may be either voluntary or compulsory, but voluntary inmates will not be allowed to leave the asylum at their own option. The compulsory cases will include those who have by their drunkenness brought themselves more than thrice into the police-courts within the last year, drunkards convalescent from mental disease, and those persons who without any mental disease endanger their own interests and those of their family by drunkenness. The inebriates are to be discharged in the event of a reversal of their sentences or after a three years' residence in the asylum. They may also be liberated upon trial after the lapse of one year. The Bill, moreover, provides for punitive measures against attempts to frustrate the successful working of the asylums.

Lunacy Statistics in Lower Austria.

According to the report of the Provincial Government of Lower Austria, the number of lunatics at present amounts to 2636. Of these, 932 are in Vienna, 196 in Langenlois, 541 in Ybbs, 487 in Kierling, 407 in Klosterneuburg, and 73 in Mödling. Among the 498 male patients detained in the Vienna Asylum there are 60 officers, 1 lawyer, 3 architects, 5 writers, 5 professors, 2 clergymen, 7 merchants, 340 workmen, 19 farmers, 33 servants, 2 foresters, and 21 of no definite occupation.

Sept. 4th.

RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

The Jenner Centenary in Russia.

IN connexion with the centenary of the introduction of vaccination, which is to be commemorated next year,[1] the Russian National Health Society offers four prizes for the best literary work upon small-pox and vaccination, under the following conditions. The essays may relate either, firstly, to the general question of small-pox and vaccination, or, secondly, to the technique of vaccination itself. Under the first heading are mentioned: (*a*) text-books on vaccination; (*b*) historical, medico-geographical, and medico-statistical works; (*c*) clinical, pathological, bacteriological, or chemical investigations; and (*d*) popular works on the utility of vaccination. Under the second heading are mentioned: (*a*) essays on the preparation of vaccine lymph and the best methods of preserving and transmitting it; (*b*) new suggestions as to the best forms of instruments used for vaccinating man and animals; and (*c*) suggestions for a model vaccination institute. Authors are not limited to any one of the above, and other aspects of the subject may be treated of in the essays. The essays may be written in either Russian, French, German, or English; they may be in manuscript or print, but must not have been printed anterior to May 2nd (14th), 1894. They must be sent in not later than March 2nd (14th), 1896, addressed to the Council of the Russian National Health Society, Dmitrovski Pereoulok No. 15, St. Petersburg. Authors may sign their own names or may write over a pseudonym, in which case they must send their own names in a sealed envelope. The first prize will be a gold medal and 1000 roubles (100 guineas approximately); the second and third, gold medals; and the fourth, a silver medal. The essays will be judged by a special commission and the results announced on the day of the centenary, May 2nd (14th), 1896.

Russian Mushrooms.

Mushrooms are found in immense quantities in the Russian forests. They form not only an important item in the diet of the peasant, but are also a considerable article of trade. There are some places, such as Vilkovishki (on the main line between Berlin and St. Petersburg), the inhabitants of which exist entirely by the sale of mushrooms. Kargopol again sends yearly to St. Petersburg as many as 5000 poods (a pood is thirty-six English pounds) of the fungi, representing in money value some thousands of pounds. M. Nadson recently read a very interesting lecture at the Botanical Gardens in St. Petersburg throwing much light upon the whole subject, particularly as to the differences between edible and poisonous forms of mushrooms. Fortunately, the poisonous forms are comparatively rare in Russia; but here, as elsewhere, there is no golden rule to distinguish them from the harmless. The lecturer mentioned an enormous number of varieties of both kinds; the most fatal seems to be the "pale *poganka*"; cases of poisoning from this form of toadstool have a mortality of 75 per cent. In Siberia the Samoyeds, Ostiaks, and Kamtchadales have long known the intoxicating properties of one form of mushroom—the *mukhomor*. Sometimes alone, sometimes mixed with the juice of a certain berry (the *golubika*), they make from it an

[1] THE LANCET, Aug. 10th, 1895.

infusion which has a stupefying effect similar to that of opium or hashish.

Diphtheria: Antitoxin Statistics.

The following figures are from the government of Podolia. They are published by Dr. Zabolotnui in a local journal and quoted in the *Meditzinskoé Obozriénié*. In 109 cases proved bacteriologically to be true diphtheria injections of anti-diphtheritic serum were employed. The number of deaths was 14; the percentage death-rate was, therefore, 12·8. Previously, under the older forms of treatment, the death-rate had been 48 per cent. Prophylactic injections were given to 228 healthy persons, stated to be members of families in which cases of diphtheria had occurred. None of these persons contracted the disease. Dr. Zabolotnui himself underwent the treatment for an attack of diphtheria and describes graphically the rapid subjective improvement after the first injection; the disappearance of headache and of the apathetic state into which he had fallen, with corresponding rise in spirits and improvement in all the specific symptoms. The temperature fell from 39·6° C. to normal after the second injection.

St. Petersburg, Aug. 19th (31st).

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Protection of the Inmates of Hospitals against Fire.

AT the last session of the Legislature of the State of New York a law was passed which provides that all hospital buildings used for general hospital purposes, or asylums or hospitals for the insane, or any hospital buildings that are more than two storeys high shall have properly constructed iron stairways on the outside thereof, with suitable doorways leading thereto from each storey above the first for use in case of fire. It shall be the duty of the trustees, managers, owners, or proprietors of such hospitals or asylums to cause such stairways to be constructed and maintained. If the trustees or owners of any hospitals, except those owned and maintained by a city, a county, or the State, shall fail to provide such stairways before Oct. 1st, 1896, then the local authorities shall proceed to erect such stairways, and the cost thereof may be recovered by an action at law from the property of the said hospital. The district attorney of each county is charged with the execution of this statute, except in the case of hospitals erected by the State, city, or by a county. This law is to take effect on Oct. 1st, 1895.

Temperance v. Crime.

In the annual report of the State Board of Pardons of Ohio attention is called to the fact that the board has in most cases deemed it prudent to include in the recommendation for pardon a condition requiring abstinence from the use of intoxicating liquor. This is done in the belief that it will lessen the liability of the pardoned prisoner to again commit the crime. "It is a conspicuous fact," says the report, "that in nearly every case of crime against the person the offender was either under the influence of liquor or became involved in an affair by reason of being in a place where intoxicating liquor was sold."

A State Board of Health commended by the Legislature.

The State Board of Michigan, one of the oldest and most useful health organisations of this country, has recently been investigated with gratifying results. The committee concludes as follows: "Your committee find that the Michigan State Board of Health, as at present organised, is one of the most useful and worthy of the departments of our State government. Through it the people have received the unrequited and the unselfish labours of distinguished citizens of our State who stand pre-eminent among the sanitarians of the country. The board has attained a renown second to none among all similar organisations in the world. It has organised and developed a public health service in this State second to none in efficiency, and which has added to the health, life, happiness, and prosperity of our people. It has materially reduced sickness and deaths from several preventable causes, and it is a demonstrable fact that these labours have resulted in an actual money saving to the people of this State many fold more than their cost."

Obituary.

PROFESSOR DE SURY.

THE Swiss school has just lost one of its most distinguished representatives in Dr. Ernest de Sury, Extraordinary Professor of Legal Medicine in the University of Bâle.

Born of a good old Helvetian family at Soleure on April 30th, 1850, de Sury when still a boy removed with his parents to Bâle, where his education was thenceforward carried on. At the university he became a zealous and proficient student of medicine and graduated with great distinction in 1874. His first professional post was that of assistant physician in the lunatic asylum at St. Gall, which he held with much acceptance for four years, until, finding himself too isolated for scientific, especially clinical, observation, he returned to Bâle. There his exceptional ability, his pleasant address, and his high integrity rapidly drew round him an influential *clientèle*. He was particularly successful with that class of patients who have contracted the "invalid habit" till they seem almost to nurse their ailments and pride themselves on proving that their case at least is too difficult for medicine. It was here his alienist experience happily intervened, not a little aided by a geniality which disarmed querulousness. The same characteristic made him extremely popular among the poor, his skill, always at their service, being enhanced by a generosity so delicate that he never burdened its object with the sense of obligation.

His connexion with the University of Bâle dates from 1880, when he opened a "cours libre" in forensic medicine. His lectures were largely attended and numbered many "post-graduates" among their hearers. In recognition of his philanthropy and public spirit, especially in behalf of the poor, he received the freedom of the city of Bâle in 1883 and in 1887 was elected to the Grand Council of State by the constituents of the Spaten quarter. He was a member of not a few commissions, on which his judgment and experience, professional and lay, were of conspicuous service, particularly on the commission for making assurance against illness compulsory, and that for reserving the Sundays intact for the repose of the working man. In 1890 he was promoted by the University as Professor Extrordinary of Legal Medicine, and was in the zenith of his powers and his popularity when, on the 26th ult., he was suddenly cut down.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Ignacio Pirovano, formerly Professor of Clinical Surgery in Buenos Ayres.—Dr. Valentini, Surgeon-General in the Prussian Army, at the age of seventy-seven.—Dr. Slawczynski, one of the oldest and most respected members of the medical profession in Berlin.—Dr. Friedrich Miescher, formerly Professor of Physiology in Bâle, at Davos, after a long illness, at the age of fifty-one.—Dr. Pasquale Landi, Professor of Surgery and Operative Medicine in the University of Pisa, aged seventy-nine.—Dr. Texier, Professor of Internal Pathology in the Medical School of Algiers.—Dr. E. Góth, Extraordinary Professor of Midwifery and Gynæcology in the University of Clausenburg.—Dr. Francesco Berté, Professor of Anatomy in Catania.—Dr. W. C. Jarvis, Professor of Laryngology in the University of New York.—Dr. Luigi Galassi, Professor of Special Medical Pathology in the University of Rome.

VACCINATION GRANT.—Mr. C. M. Leakey, L.S.A., of Caistor, has received for the second time a grant for successful vaccination as public vaccinator for district No. 2 of the Caistor Union.

THE following members of the medical profession have been selected for admission to the Order of the Hospital of St. John of Jerusalem in England, or enrolled as Honorary Associates of the order:—As Knights of Grace: Mr. Charles Edward Milnes Hey, M.R.C.S.; Sir William Overend Priestley, M.D., LL.D.; Deputy-Inspector-General Belgrave Ninnis, M.D., R.N. Enrolled as Honorary Associates: Mr. Reuter Emerich Roth, M.R.C.S., of Sydney, New South Wales; Mr. John Edward Squire, M.D.; and Mr. Alfred Croudson Tunstall, M.D.

Medical News.

APOTHECARIES' HALL.—The following candidates passed the Preliminary Examination in Arts on Sept. 6th and 7th:—

First Class.—None.

Second Class.—F. G. Cross, O. B. Gauntlett, F. S. S. George, C. J. Graham, G. W. Greene, J. W. Harrison, M. Muirhead, D. S. Sandiland, and F. W. Smith.

The following passed in one or more subjects:—

N. Hodgetts, S. C. Jellicoe, A. E. Muscott, T. Richards, S. Rogers, and R. Tilbury.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bâle:* Dr. R. Metzner of Freiberg has been appointed to the chair of Physiology in succession to Dr. Miescher, resigned. Dr. Fritz Egger has been recognised as *privat-docent* in Medicine.—*Barcelona:* Dr. Gil Saltor Lavali, Professor of Histology, Normal and Pathological, has been appointed to the chair of Surgical Pathology.—*Breslau:* Dr. A. Buchwald, *privat-docent* in Medicine, has been granted the honorary rank of Professor. Dr. Jacobi has been appointed Professor of Forensic Medicine.—*Bonn:* Dr. Finkler has been promoted to the Ordinary Professorship of Hygiene.—*Columbian University, Washington:* Dr. W. Reed has been appointed to the chair of Bacteriology and Pathology, and Dr. M. T. Phillips to that of Hygiene.—*Catania:* Dr. M. Guzzardi has been recognised as *privat-docent* in Surgical Pathology.—*Granada:* Dr. Rafael Mollá y Rodiguez of Havana has been appointed Professor of Clinical Surgery.—*Genoa:* Dr. Canalis has been promoted to the Ordinary Professorship of Hygiene.—*Greifswald:* Dr. Enderlen has been recognised as *privat-docent* in Surgery.—*Harvard University:* Dr. Harold C. Ernst has been appointed Professor of Bacteriology.—*Leipzig:* Dr. Eigenbrodt of Bonn has been recognised as *privat-docent* in Surgery.—*Naples:* Dr. Gennaro de Luca has been recognised as *privat-docent* in Medical Pathology, and Dr. C. Conca as *privat-docent* in Materia Medica and Pharmacology.—*New York (Policlinic):* Dr. Wilbur B. Marple has been appointed Professor of Ophthalmology, Dr. W. R. Pryor Professor of Gynæcology, and Dr. W. R. Townsend Professor of Orthopædic Surgery.—*Prague (German University):* Dr. Ewald Hering has been recognised as *privat-docent* in Experimental Pathology. (*Bohemian University*): Dr. O. Frankenberger has been appointed *docent* in Laryngology and Rhinology; Dr. J. V. Rohon has been appointed Extraordinary Professor of Histology.—*St. Petersburg (Military Medical Academy):* Drs. Petersen, Mochukovski, and Hitikin have been made Honorary Professors.—*Tomsk:* Dr. F. Krüger of Iurieff (Dorpat) has been appointed Extraordinary Professor of Medical Chemistry.—*Tübingen:* The names mentioned for the chair of Ophthalmology vacant by the death of Dr. Nagel are Drs. Berlin of Rostock, Uhtoff of Marburg, and Schleich of Stuttgart.—*Würzburg:* Dr. K. Rieger has been promoted to the ordinary Professorship of Psychiatry.—*Zürich:* Dr. H. von Wyss has been appointed Extraordinary Professor of Forensic Medicine.

THE DRUG, CHEMICAL, AND ALLIED TRADES EXHIBITION.—As announced in our issue of Aug. 16th, the Drug, Chemical, and Allied Trades Exhibition, was opened on the 10th inst. at the Agricultural Hall. Though the display, compared with some of the huge exhibitions held in the Agricultural Hall from time to time, was small it was not devoid of interest, and the freedom of space between the exhibits afforded an opportunity of comfortable inspection and a relief from the usual crowded state of exhibitions of this kind. Viewed as a first attempt, moreover, the attendance of a fairly large proportion of visitors, especially in the evening, must have proved a source of encouragement to the organisers. Drugs were well represented, as were also mineral waters, artificial and natural; while glass-blowing and improved methods of distilling, percolation, &c., and other processes incidental to the preparation of pharmaceutical substances, afforded subjects of peculiar interest to those closely connected with the drug industry and allied trades. This inaugural movement is, we think, one deserving of support, since, apart from its inevitable commercial aspects, it should possess a distinctly educational value inasmuch as it is calculated to spread a knowledge of the improvements and progress that are desirable in so important a branch of industrial affairs as pharmacy and manufacturing chemistry.

THE LATE MR. REESE OF YSTRADGYNLAIS.—The very sudden death of Mr. Reese, L.F.P.S. Glasg.—who was instantly killed by lightning while on his way to visit a patient—created such an amount of sympathy and kindly feeling, not only among the workmen to whom he acted as medical attendant, but also among the public at large, that a general desire has been expressed that funds should be collected for a memorial stone to be erected upon his grave and a testimonial in money to be presented to his widow. On Aug. 7th a public meeting was held, at which a committee was formed and officers appointed, whose names appear below, for the purpose of collecting funds, and they have every confidence that their appeal will receive a liberal response when sympathisers know that Mr. Reese had not insured his life and that his widow and eleven children, four of whom are quite young, have been left unprovided for. Chairman: Mr. John Rees, M.E., Seven Sisters, Neath. Hon. secretary: Mr. Thos. Watkins, Castle Bank, Ystradgynlais. The Rev. E. L. D. Glanley, Rector of Ystradgynlais, has kindly consented to act as treasurer.

VISIT OF THE SHAHZADA TO ST. THOMAS'S HOSPITAL.—The Shahzada, attended by Sir Michael Biddulph, Sir Adalbert Talbot, Sir Acquin Martin, Surgeon-Major Leahy, Colonel Mahomed Husan Khan, Colonel Mahomed Akram Khan, and other members of his suite, visited St. Thomas's Hospital on Aug. 31st. His Highness spent the whole afternoon in the wards of the hospital and in the medical school. He inquired as to the foundation of the hospital, the manner in which it was supported, and then personally inspected the whole working of the institution, visiting the wards, examining the surgical appliances, and asking for a demonstration of the whole method of carrying out antiseptic surgery in the operating theatre. The arrangements for heating, ventilation, cooking for the patients, the dispensing of medicines, and the recording of hospital cases were also studied by him with much interest. The Shahzada also visited the Nightingale School for Nurses; and he minutely inspected the whole arrangements for the teaching of students in the Medical School. The Pathological and Anatomical Museum especially attracted his interest, and he asked for information regarding medical education in this country and discussed what he saw with the members of his staff present. His Highness, besides warmly expressing his thanks for what had been shown him, was pleased to make a generous donation of £150 to the fund at present being raised to clear off the debt and completely open the hospital.

LITERARY INTELLIGENCE.—The works promised by Messrs. J. & A. Churchill to be ready for the winter session include "Mental Physiology, especially in its relation to Mental Disorders," by Dr. Hyslop, assistant physician, Bethlem Royal Hospital, and the third edition of Dr. Clowes' and Mr. Coleman's "Quantitative Chemical Analysis." The same firm also announce that they have the following works in preparation: "A Manual of Midwifery," by Dr. Lewers, obstetric physician to the London Hospital; "A Students' Text-book of Mental Diseases," by Dr. Percy Smith, resident physician and medical superintendent, Bethlem Royal Hospital; "A Handbook of Diseases of the Eye," by Mr. Jessop, ophthalmic surgeon to St. Bartholomew's Hospital; a fifth edition of Dr. Lloyd Roberts' "Practice of Midwifery"; a third edition of Mr. Jacobson's "Operations of Surgery"; and Professor Reynolds Green's second and concluding volume of his "Manual of Botany," treating of the classification and physiology of plants.—Messrs. Longmans will shortly publish "The Life of Sir Henry Halford, Bart., G.C.H., M.D., F.R.S., President of the Royal College of Physicians, Physician to George III., George IV., William IV., and to Her Majesty Queen Victoria," by William Munk, M.D., F.S.A., Fellow and late Vice-President of the Royal College of Physicians of London. Also "The Life and Letters of George John Romanes, M.A., LL.D., F.R.S." Written and edited by his wife. This life of the well-known naturalist, the friend and disciple of Darwin, includes correspondence between Mr. Romanes and Mr. Darwin; also many of Mr. Romanes' letters to scientific men and to private friends.—Her Royal Highness Princess Christian has accepted the dedication of a new novel, entitled "Perfect Womanhood," from the pen of Mr. Frederick James Gant, F.R.C.S. Eng. It will be published at the end of September by Messrs. Digby Long and Co.

LIFE-SAVING AND AMBULANCE WORK ON THE SOUTH COAST.—With its usual crop of bathing casualties the past summer, more, perhaps, than has been the case in any previous year, has been noticeable on the south coast for the long list of rescues and restoration to consciousness of the apparently drowned. At Brighton the police have been several times publicly complimented by the magistrates on their promptitude in the matter of first aid. Quite recently a soldier, brought from the sea in an absolutely unconscious condition, was practically resuscitated by the efforts of a constable. In reference to the fireworks fatality in Preston-park, on which occasion no less than a score of cases were treated at the Sussex County Hospital, it was stated at the inquest that but for the good use made by the police of their ambulance training the deaths must have been more numerous. Both in Brighton and Hove a large majority of the policemen have passed one or more of the St. John examinations. In the matter of rescue it has been especially gratifying to note the bravery of onlookers at an accident. At Portsmouth last week a yacht capsized, and at once two men swam to the rescue, one of whom, entangled in the sunken shrouds, had to be himself aided. Here no life was saved. At Worthing a young man fetched a bather from the bottom and induced respiration artificially afterwards by means of half an hour's hard work. At Eastbourne, Hastings, and on the rivers the same thing has been done more than once. The Royal Humane Society's awards have been made in many of these instances, and they have done much to keep before the public the undoubted value of life-saving and ambulance instruction.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Close of the Session.

THE short session of the new Parliament, which opened on Aug. 12th, was brought to a close on Thursday, Sept. 5th, when the Queen's Proclamation was read in the House of Lords.

HOUSE OF COMMONS.

THURSDAY, AUG. 29TH.

Health of the Troops at Aldershot.

Mr. Brodrick, Under Secretary of State for War, replying to a question by Mr. Pierpoint, said that during the last six months there had been admitted to the hospitals at Aldershot 137 cases of diphtheria and 525 cases of sore-throat. In the latter the returns did not differentiate septic sore-throat. In the diphtheria cases the type had been that known as "benign," and they had readily yielded to the antitoxin treatment, only one death having resulted from this complaint. Although full investigation was made, in none of the cases could the origin of the disease be definitely traced. Some medical officers, however, were inclined to ascribe its prevalence and that of septic sore-throat to the recent necessary opening up of the old drains for the purpose of reconstruction. The question was engaging most careful attention.

The Government and the Unemployed.

Mr. Herbert Lewis addressed a question to the First Lord of the Treasury asking whether the Government intended to take any, and if so what, practical steps to obviate distress arising from want of employment during the coming winter. The reply to this question was made by Mr. Chaplin, President of the Local Government Board, who said that the Government fully appreciated the importance of the subject, and would watch very closely any increase of destitution due to want of employment, with every desire to render such assistance as circumstances admitted if and when the conditions during the coming winter foreshadowed by the hon. member should unhappily arise.

Insanity and the Use of Alcohol.

Mr. McKillop addressed a question on this subject to the Local Government Board, and Mr. Jesse Collings replied that he was afraid it would be impossible to obtain a return by the medical officers of asylums in the United Kingdom showing what percentage, if any, of the patients in their experience suffered from temporary or general madness arising from the presence of fusel oil, ether, methylated spirits, antimony, or other adulterant poison in spirits consumed by the people of the country; but he would consult the Commissioners in Lunacy to ascertain whether it were possible, and he would communicate with the hon. member. In the report of the Lunacy Commissioners for the present year the hon. member would find a return of the cases of insanity caused by intemperance generally. The proportions were 20 per cent. of males and 8 per cent. of females. The hon. member would find the exact figures in the report and other information bearing on the question of insanity and intemperance.

The Local Government Board in Ireland.

The vote for the salaries and expenses of the Local Government Board in Ireland gave rise to a long discussion at this sitting with regard to various matters connected with public health in Ireland.

Mr. Power called attention to the want of hospitals for the accommodation of persons who could afford to pay a little towards their maintenance.

Mr. Tully complained of the increase in the vote in respect of vaccine lymph, declaring it to be due to indiscriminate and wholesale revaccination carried on in some districts. He also called attention to night nursing in union hospitals and to the accommodation of pauper lunatics.

Mr. Farrell criticised at length the constitution of the Board.

Mr. Gerald Balfour, the new Chief Secretary for Ireland, replying to these and other speeches, claimed for the Local Government Board that it had not been remiss in dealing with special cases of distress in Ireland, and announced that he himself intended at a very early period to visit the poorer districts and see with his own eyes the exact state of things. He admitted that the treatment of the sick in workhouses left very much to be desired, and he assured the House that the Local Government Board were at the present time doing their utmost to induce guardians to improve the condition of things in their hospitals, and more especially the system of night nursing; but, as he had said before, it was not unwillingness but want of resources that prevented the guardians in poor unions from doing better things for the sick in their hospitals. There was a great deal to be said in favour of sending pauper lunatics to asylums instead of to workhouses, but he feared that at present there was not sufficient accommodation in the existing asylums to receive all the pauper lunatics.

Mr. Power, speaking as a Poor-law guardian in the Cork Union, said that he had seen something of asylums for pauper lunatics in Ireland, and he regarded these institutions as a public scandal. The medical officers were at work early and late and were most inadequately paid.

Mr. Arthur O'Connor invited the Chief Secretary to consider the treatment of paupers in England and compare it with what he found in Irish workhouses. Let him compare the dietary scales in English and Irish workhouses. Let him then consult any medical authority he chose upon what was necessary to keep a human being in normal health, and he would find in no English prisons or workhouses was such a dietary scale known as prevailed in Irish workhouses. According to all medical testimony the whole dietary scale in Irish workhouses was far inferior to that in English workhouses. For many years his efforts to induce different Irish Secretaries to deal with this question had failed, but he was bound to say that he had great hope that the present Chief Secretary would remedy the evil if he found that it really existed.

Mr. Gerald Balfour delivered another speech, in which he undertook to consider in a sympathetic manner the different points that had been put before him.

FRIDAY, AUG. 30TH.

Factory Laws on the Continent.

Sir Matthew White Ridley said, in reply to Mr. Drage, that his attention had been called to the report of the Chief Inspector of Factories for the year 1894, and the *précis* drawn up by one of Her Majesty's inspectors (Miss Anderson) of the regulations under the factory laws of France, as well as the general regulations with respect to sanitation, ventilation, and the restrictions placed on the employment of women and children in French industrial establishments. He had communicated with the Chief Inspector of Factories, who told him that he hoped to include in the next annual report a *précis* of the Austrian and German law on the same subjects.

The Marching Powers of the Army.

Mr. Brodrick said that the attention of the Secretary of State for War had been drawn to the statements as to the number of soldiers in the force now mobilised for the manœuvres in the New Forest who were unable to keep up with their regiments and had fallen out of the ranks on the line of march, and he had called for full reports on the subject from the general officer commanding. Until these reports were received no opinion could be expressed as to defects in marching or as to the causes of such defects. The Secretary of State was alive to the importance of good marching under service conditions, and the results of the manœuvres in this respect would be carefully considered by the military authorities.

MONDAY, SEPT. 2ND.

The Water-supply of London.

On the motion of Sir Albert Rollit a return was ordered showing as regards each water company supplying water in the metropolis—(*a*) the name of each metropolitan parish where the supply throughout the parish is a constant supply; (*b*) the name of each metropolitan parish where the supply is a constant supply only in part of the parish, and, in the case of each such parish, a description of the part of the parish where the supply is constant; (*c*) with respect to each parish at whose instance the constant supply was ordered or given; (*d*) the name of each metropolitan parish where the supply throughout the parish is intermittent; (*e*) the name of each metropolitan parish where the supply is intermittent only in part of the parish, and, in the case of each such parish, a description of the part of the parish where the supply is intermittent; and (*f*) with respect to each parish or part of a parish where the supply is intermittent the period during which water is supplied daily to the premises of consumers.

The Boots of the Army.

Mr. Brodrick, answering a question put by Mr. R. G. Webster, said that, owing to the difficulty of obtaining hand-sewn boots fully up to standard in sufficient quantities for the requirements of the army, it was decided some years ago to restrict the issue of hand-sewn infantry boots to regiments serving abroad. The machine-sewn boot issued at home was somewhat cheaper, but there was no reason to suppose it was less durable. It was, however, unquestionably stiff and heavy, and experiments were being made with the view of introducing a lighter and more flexible boot. The shape of the boot would also be considered.

Ventilation and Sanitation of the Houses of Parliament.

Mr. Akers Douglas, replying to a question by Mr. Weir, said that his attention had been directed to the subject of the ventilation and sanitation of the Houses of Parliament, and he would further consider it during the Recess. His examination of the question so far led him to regard with confidence the general system which was now in operation, and which was supported by the decisions and recommendations of the Select Committees which had so recently investigated the matter. He was not at all prepared to adopt the views of Mr. Keith, whose knowledge of the arrangements appeared to be imperfect. In some parts of the building there was, he thought, room for improvement in the ventilation, and these would be carefully looked into.

The Case of Dr. Herz.

Mr. Byron Reed asked the Under Secretary of State for Foreign Affairs whether the British and French Governments had come to an

agreement regarding the modification of the extradition laws between the two countries, so that for the future any person whose extradition was demanded might be examined at his residence without being arrested; and, if so, whether it might be understood that this applied to the case of Dr. Cornelius Herz.—Mr. Curzon replied that Her Majesty's Government had suggested to the French Government that a supplementary convention should be signed in order to give effect to the Extradition Act (1895), and had reason to hope that there would not be any difficulty in coming to an agreement. No convention had, however, yet been signed.

TUESDAY, SEPT. 3RD.

Provision for the Aged Poor.

Mr. Balfour, in reply to a question with regard to the form the proposed further inquiry into this subject will take, said that he could not make any final statement, but the inquiry would not be by a committee of this House, but would probably be departmental. If it was he trusted it might be at work before the next session of Parliament.

Post-mortem Examinations in Scotland.

Mr. Caldwell asked the Lord Advocate to explain why it was that in the case of William Agnew, shoemaker, Glasgow, who was tried for murder at Glasgow on the 29th ult. and acquitted, the Crown refused permission to medical men appointed by the prisoner to be present at the post-mortem examination of the deceased. This matter, he said, was causing very great interest in Glasgow. He did not believe that in any other country in the world a prisoner would have been refused the application to have two medical men present on the occasion of the post-mortem examination. It was a case of circumstantial evidence, and it was known that the most material link would be the post-mortem examination by the medical men. Accordingly the prisoner applied that two medical men, whose names were mentioned to the Procurator-Fiscal—men of eminence in Glasgow—should be present on his behalf, and the application was refused by the Crown authorities. The matter would obviously not stand reasoning, for undoubtedly a prisoner was entitled to bring forward medical evidence to rebut that of the prosecution, and it was essential for the defence that they should have all the material necessary to present their case.

The Lord Advocate replied that as soon as he began his duties he found that this matter was prominently brought before him, and he hoped it would content the hon. member if he answered him that his predecessor had only commenced an inquiry into the expediency of any modification of the practice in this matter. He had succeeded to that inquiry, and was prosecuting it as actively as he could. He said that without any pronouncement one way or the other as to the expediency of changing the practice, but no one knew better than the hon. member that it had been the practice of many successive Lord Advocates to hold to the principle that in conformation with the Scotch system of criminal inquiry—which he had yet to learn did not possess the confidence of the public—the Lord Advocate and the Crown officials had always held that it was within their discretion in each particular case to allow the presence of outside medical men. At the necropsy a prisoner could on application obtain an investigation for himself; but to allow outside medical men to be present at the post-mortem examination which was made on behalf of the Crown was a question which could not be decided offhand. He did not think the hon. member was correct in saying that the medical profession in Glasgow were unanimous on the subject. He had evidence, at all events, that certain members of the profession in Glasgow did not take that view. But he did not think it would be appropriate on this occasion and at this stage of the inquiry which was now going on to say anything further.

WEDNESDAY, SEPT. 4TH.

A Herbal Specific for Hydrophobia.

Mr. Farrell asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the death from hydrophobia, at Hyde, of a young man named Haywam, who had been previously treated for that disease at the Paris Pasteur Institute. Whether he was aware that Philip McGovern, of Glan, county Cavan, claimed to possess a specific herbal remedy for the treatment of this disease, which had resulted in the cure of thousands of cases since the days of King Charles I. And whether, having regard to the necessity of doing something to cope with the increase of rabies, the Government would cause an inquiry to be made into the efficacy of this remedy, with a view to its adoption and use in some central hospital in Dublin or elsewhere.

Mr. Gerald Balfour replied that his attention had not been called to the unfortunate occurrence mentioned in the first paragraph of the question, nor was he aware of the remedy for hydrophobia for which Philip McGovern claimed so much efficacy. As regarded the last paragraph, he was afraid he must maintain the same attitude of caution and reserve which, to judge from the hon. member's question, had been adopted by Irish Governments ever since the days of Charles I.

BOOKS ETC. RECEIVED.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.

Illustrations of Pathological Anatomy. By Professor Dr. A. Kast and T. Rumpel. English edition, revised and edited by M. A. Ruffer, M.D. Oxon. Parts 9, 10, 11, 12.

CASSELL AND CO., London.

Diseases of the Joints and Spine. By Howard Marsh, F.R.C.S. New and revised edition. Illustrated. 1895. pp. 532. Price 12*s.* 6*d.*

CHAPMAN AND HALL, London.

Dialogues of the Day. Edited by Oswald Crawfurd. Illustrated. pp. 262.

Some Old Love Stories. By T. P. O'Connor. 1895. pp. 337.

CHURCHILL, J. & A., New Burlington-street, London.

Mental Physiology, especially in its relation to Mental Disorders. By T. B. Hyslop, M.D. 1895. pp. 552. Price 18*s.*

EDWARDS AND DOCKER CO., Philadelphia.

Modern Medicine and Homœopathy. Two Addresses by J. B. Roberts, A.M., M.D. 1895. pp. 69.

GRIFFIN, CHARLES, AND CO., Exeter-street, Strand, London.

Outlines of Practical Physiology. By William Stirling, M.D., Sc.D. Third edition. Illustrated. 1895. pp. 402. Price 12*s.* 6*d.*

KEGAN PAUL, TRENCH, AND CO., Charing-cross-road, London.

The Origin of Plant Structures by Self-adaptation to the Environment. By the Rev. G. Henslow, M.A., F.L.S., F.G.S. 1895. pp. 256.

The Two Thrones, &c. By John A. Goodchild. 1895. pp. 256.

LIVINGSTONE, E. & S., Edinburgh.

The Student's Practical Materia Medica. By G. H. Giffen, L.R.C.P. and S. Edin. 1895. pp. 86. Price 2*s.* net.

LONGMANS, GREEN, AND CO., London.

The Stark Munro Letters. Edited by A. C. Doyle. 1895. pp. 346. Price 6*s.*

MALCOLM, A., Ann-street, City, Glasgow.

A Trip to Chicago. By M. C. Ward, M.D. 1895. pp. 124.

PHILIP, GEORGE, AND SON, Fleet-street, London, E.C.

The English Lakes. By H. R. Mill, D.Sc., F.R.S.E. With Maps and Illustrations. 1895. Price 3*s.* 6*d.*

REBMAN, F. J., Adam-street, Strand, London.

The Law and Chemistry of Food and Drugs. By H. M. Robinson, LL.D. Lond., and C. H. Cribb, B.Sc. Lond., F.I.C. 1895. pp. 499.

RENSHAW, HENRY, Strand, London.

Principles of Forensic Medicine. By W. A. Guy, M.B. Cantab., F.R.S., and D. Ferrier, M.D., LL.D., F.R.S. Seventh edition, revised by W. R. Smith, M.D., D.Sc., F.R.S. Edin. 1895. pp. 832.

SIMPKIN, MARSHALL, AND CO., London.

The Woman who Wouldn't. A Novel. By Lucas Cleeve. 1895. pp. 225.

STOCK, ELLIOT, 62, Paternoster-row, London, E.C.

The Origin and Nature of Man. By S. B. G. McKinney. 1895. pp. 95.

STOCK, W., Paternoster-square, London, E.C.

The Growth of the Brain: a Study of the Nervous System in relation to Education. By H. H. Donaldson. 1895. pp. 369.

STREET AND CO., Cornhill, London.

Orotava as a Health Resort. Illustrated. pp. 62. Price 1*s.* 6*d.*

SWAN, SONNENSCHEIN, AND CO., Paternoster-square, London.

An Introduction to the Study of Zoology. By B. Lindsay. Illustrated. 1895. pp. 356. Price 6*s.*

Studies in the Evolutionary Psychology of Feeling. By H. M. Stanley. 1895. pp. 392. Price 7*s.* 6*d.*

Analytical Key to the Natural Orders of Flowering-Plants. By F. Thonner. 1895. pp. 151. Price 2*s.*

WRIGHT, JOHN, AND CO., Bristol.

Eyesight and School Life. By Simeon Snell, F.R.C.S. Edin. Illustrated. 1895. pp. 70. Price 2*s.* 6*d.*

University College, Bristol: Calendar for the Session, 1895-96 (J. W. Arrowsmith, Quay-street, Bristol).—Wright's Improved Physicians' and Consultants' Visiting List; compiled by R. Simpson, L.R.C.P., L.R.C.S.; 1896: third edition (John Wright and Co., Bristol); price 5*s.* 6*d.*—Le Paludisme; par le Dr. A. F. Duberge; 1896 (Société d'Éditions Scientifiques, Paris).—Des Dégénérescences secondaires du Système Nerveux; par le Dr. G. Durante; 1895 (Société d'Éditions Scientifiques, Paris).—Bibliographie der Klinischen Helminthologie; Heft 9: Eustrongylus Gigas (Diesing), Trichina Spiralis (R. Owen); von Dr. J. Ch. Huber (J. F. Lehmann, München, 1895).—Medical and Surgical Reports of the Boston City Hospital; sixth series; edited by G. B. Shattuck, M.D., W. T. Councilman, M.D., and H. L. Burrell, M.D. (published by the Trustees, Boston, 1895).—The Exchange Telegraph Company, Cornhill, London; Poll Book, 1885, 1886, 1892, 1895; price 2*s.*—The Insurance File of the Principal Insurance Offices of the United Kingdom (W. J. West, Queen Victoria-street, London, August, 1895); price 1*s.*—Veröffentlichungen aus dem Gebiete des Militär-Sanitätswesens; Heft 9 (A. Hirschwald, Berlin, 1895).—China Imperial Maritime Customs; Eleventh Special Series; No. 2; Medical Reports for the Year ended Sept. 30th, 1892; forty-third and forty-fourth issues (P. S. King and Son, King-street, Westminster, S.W.)—The Thumb as an Initial Factor of Civilisation; by W. R. Whitehead, M.D. Paris; reprint (Trow Directory Co., New York, 1895).—Magazines for September: Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Pall Mall Magazine, The Picture Magazine, English Illustrated Magazine, Hearth and Home, Our Bubble (a coloured Magazine for Boys and Girls), London, Home, and The Strand Magazine.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BENNETT, W. E., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Otley Urban District.

CAMPBELL, H. I., M.D. Lond., M.R.C.P., M.R.C.S., has been appointed Physician to the Bradford Infirmary.

CHARPENTIER, A. E. L., M.B. Durh., has been appointed Medical Officer for the Uxbridge Sanitary District of the Uxbridge Union.

CRAWFORD, A. D., M.B., C.M. Glasg., has been appointed Medical Officer for the Marston Green Cottage Homes, vice H. W. Thomas.

DAWSON, W. E., L.R.C.P.I., has been appointed Admiralty Surgeon to Walton-on-Naze.

DOBB, JAMES, L.R.C.P., L.M., L.R.C.S. Edin., has been appointed Medical Officer of Health for the Golbourne Urban Sanitary District.

EVANS, W. C., L.R.C.P., L.M., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the First Sanitary District of the Hawarden Union.

FEGEN, C. M., M.R.C.S., L.R.C.P., and Diploma in State Medicine, has been appointed Medical Officer of Health to the Ampthill Rural District Council.

GODDARD, C. E., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health to the Wembley Urban District Council.

GOULD, J. E., M.D. Lond., L.R.C.P., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer of Health to the Chesterfield Town Council.

GRELENHALGH, T., L.R.C.P., L.M. Irel., M.R.C.S., has been appointed Medical Officer for the Fylingdales Sanitary District of the Whitby Union.

HALL, S. H., M.B., C.M. Edin., has been appointed Medical Officer for the Fusehill and Harraby Hill Workhouses of the Carlisle Union, vice C. S. Hall.

HALLIGAN, A. M. I., L.R.C.P., L.M. Irel., has been appointed Medical Officer for the Ballyroan Dispensary District of the Abbeyleix Union.

HARCOURT, GEORGE R., M.R.C.S., L.R.C.P., has been appointed Assistant Medical Officer at the Lambeth Infirmary.

HARVEY, R. J., L.R.C.P., L.M., L.R.C.S. Irel., has been appointed Assistant Surgeon to the Richmond Hospital, Dublin.

HEAD, JOHN H., B.A., M.D., B.Ch., B.A.O. has been appointed House Surgeon to the Morpeth Dispensary.

JENKINS, J. H., L.R.C.P. Edin., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer of Health to the Lytham Urban District Council.

JOHNSTON, G. JAMESON, M.A., M.B., B.Ch., B.A.O., has been appointed Assistant Surgeon to the Richmond Hospital, Dublin.

LAWS, W. G., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Nottingham and Midland Eye Infirmary, vice E. Beckit Truman, resigned.

LINDE, T., M.D., C.M. Edin., has been appointed Medical Officer for the No. 5 Sanitary District of the Westbury-on-Severn Union.

LOUDON, M. M., M.D., M.Ch., L.M.R.C.P. Irel., has been appointed Public Vaccinator for the Arundel District of the East Preston Union.

MACDONALD, J. A., M.B., C.M. Glasg., has been appointed Medical Officer for the Denton District of the Grantham Out-relief Union.

MCINTOSH, L. M., M.D. Dubl., B.Ch., has been appointed Surgeon to the Blackpool Hospital, vice F. A. Heslop, deceased.

MACINTYRE, H., M.B., M.S. Glasg., has been appointed Assistant Medical Officer to the Shoreditch Infirmary.

MINTER, L. J., M.D. Brux., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Uxbridge Union.

MONKS, E. HODKINSON, L.R.C.P., L.R.C.S. & L.M. Edin., has been appointed Honorary Surgeon to the Royal Albert Edward Infirmary, Wigan, vice W. C. Barnish, deceased.

ORCHARD, E. R., M.B., M.S. Aberd., has been appointed Medical Officer of Health to the Kingussie and Irish Parish Council.

OSBORN, E. C., L.R.C.P. Lond., has been appointed Assistant Medical Officer for the Workhouse and Infirmary of the Parish of Kensington, vice Cooper, resigned.

PEARSE, R. E. F., L.R.C.P. Lond., M.R.C.S., has been reappointed House Surgeon to the Jagersfontein Hospital, Orange Free State, South Africa.

REILLY, F. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Billinge Urban Sanitary District.

ROBERTS, A. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health to the Malling Rural District Council.

ROBERTS, E. B., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the No. 1a Sanitary District and the Workhouse of the Hawarden Union.

ROBERTS, F. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Llandrindod Wells Urban Sanitary District.

SHAW, HAROLD, B.A., M.B. Camb., D.P.H., has been appointed Medical Superintendent of the County Asylum of the Isle of Wight.

SPURRELL, CHARLES, F.R.C.S., L.M., L.R.C.P. Lond., has been appointed Medical Superintendent for the Poplar and Stepney District Sick Asylum, vice W. H. Pearce.

STEVENS, R. C. J., M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the Devon and Exeter Hospital, vice H. H. Lloyd Patch, resigned.

SYLVESTER, K. F., L.R.C.P., L.M., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Melksham Union, vice G. M. Sylvester.

VIGURS, C. R. C., M.R.C.S., has been appointed Medical Officer for the No. 5 Sanitary District of the St. Columb Major Union, vice N. A. Norway, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERDEEN CITY HOSPITAL.—Resident Physician at the City (Infectious Diseases) Hospital. Salary £50 per annum, with board and residence at the hospital. Applications to the Town Clerk, Town House, Aberdeen.

BELGRAVE HOSPITAL FOR CHILDREN, 77, Gloucester-street, London, S.W.—House Surgeon. Board, fuel, and lights provided.

BETHLEM HOSPITAL, London.—Two Resident Clinical Assistants.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with apartments and board.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and washing.

CARNARVONSHIRE JOINT SANITARY COMMITTEE.—Medical Officer of Health for five years. Salary £694 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—House Surgeon, tenable for two years. Salary £100 per annum.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY.—Junior House Surgeon, unmarried. Honorarium, £40 per annum, with board, lodging, and washing. Applications to the Hon. Secretary, Clayton Hospital, Wakefield.

COUNTY BOROUGH OF NEWPORT.—Medical Officer or Health for the Borough and the Port Sanitary District for five years. The salaries amount together to £350. Applications to the Town Clerk.

DURHAM COUNTY ASYLUM.—Junior Medical Officer. Salary £100 per annum, with board and lodging. Applications to the Superintendent, Winterton, Ferryhill.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £100 a year, with board and lodging. Applications to the Hon. Sec., 16, South Bailey, Durham.

ESSEX AND COLCHESTER HOSPITAL.—House Surgeon, single or widower without a family. Salary, £80 per annum, with board and lodging in the hospital. Applications to the Secretary.

JAFFRAY SUBURBAN BRANCH OF THE GENERAL HOSPITAL, Gravelly Hill, near Birmingham.—Resident Medical and Surgical Officer. Salary £150 per annum, with board, residence, and washing.

LONDON HOSPITAL, Whitechapel, E.—Medical Electrician.

NEW HOSPITAL FOR WOMEN, Euston-road, London.—Medical Woman as Clinical Assistant in the Out-patient Department.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, London, N.W.—Resident Medical Officer, for four months. Salary at the rate of £60 per annum, with board and residence.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Board, lodging, and washing provided.

ROYAL ORTHOPÆDIC HOSPITAL, 297, Oxford-street, London, W.—Resident House Surgeon. Salary £100 per annum, with partial board.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE.—Assistant Demonstrator of Chemistry.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—House Surgeon. Salary £100, with board and residence.

SUSSEX COUNTY HOSPITAL.—Assistant House Surgeon, unmarried. Salary not exceeding £30 per annum, with board, washing, and residence in the hospital. Applications to the Secretary, Brighton.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Surgeon for six months. Board and lodging provided.

Births, Marriages, and Deaths.

BIRTHS.

SHERWOOD.—On the 4th inst., at Eastbourne, the wife of A. P. Sherwood, M.D., of a daughter.

WADHAM.—At Strathfield, Sydney, N.S.W., the wife of Frederick Wadham, F.R.C.S., of a daughter.

MARRIAGES.

BUTLER—SMITH.—On Sept. 5th, at St. Mark's, Surbiton, by the Venerable Archdeacon Burney, assisted by the Rev. R. H. Pring, Charles Butler, M.R.C.S., L.R.C.P., youngest son of the late William Eldridge Butler, late of Le Court, Hants, to Alice Barbara, youngest daughter of the late John George Smith, of Hill House, Surbiton.

DAWES—POVEL.—On Wednesday, Sept. 4th, at St. Edward's Roman Catholic Church, Victoria-park, Manchester, by the Rev. T. Croskell, B.A., Mr. J. W. Dawes, M.B., son of Mr. W. J. Dawes, M.R.C.S., of Longton, Staff., to Marie, second daughter of Anthony Povel, Esq., of Manchester. At home third and fourth week in October. No cards.

HARCOURT—ELLISON.—On Sept. 7th, at Martin Chico, Carmelo, Uruguay, Richard Eugene Harcourt, M.D. Irel., to Mary Duncan, only daughter of John Ellison, Stoneleigh, Anfield, Liverpool.

JOYNSON—PARKINS.—On Sept. 10th, at St. Mark's, Hamilton-terrace, Northwich, Gerald George Joynson, M.R.C.S., L.R.C.P. Lond., of Witton House, to Gertrude, younger daughter of Mr. Parkins, Boundary-road, South Hampstead, N.W.

DEATHS.

BURTON.—On Sept. 6th, at Lichfield-street, Burton-on-Trent, Leonard William Burton, M.R.C.S., second son of Frederic Burton, of Knatchbull-road, S.E., aged 36.

GROSVENOR.—On Sept. 9th, at 9, Greville-place, Maida-vale, London, Elizabeth, the beloved wife of William Grosvenor, L.R.C.P., &c., late of Hanley, co. Staffordshire, and second daughter of the late Daniel Wilshaw, of Talk o' th' Hill, Staffordshire, aged 60.

HODGES.—On Sept. 7th, at Leicester, Frank H. Hodges, F.R.C.S., Ophthalmic Surgeon to the Leicester Infirmary. Friends are requested to accept this intimation.

ROBERTSON.—On Sept. 7th, James D. Robertson, M.D., of The Friarage, Penrith, aged 54.

STEEDMAN.—On Sept. 2nd, at The Lawns, Wellington, Shropshire, John Francis Steedman, M.D. Glasg., aged 78 years.

STEVENSON.—On Aug. 29th, at Whitby, from accidental drowning, Harold Thomas Stevenson, elder son of Thomas Stevenson, M.D., F.R.C.P., of Sandhurst Lodge, Gresham-road, S.W.

WHITNEY.—On Sept. 9th, at Bessborough-gardens, Westminster, formerly of Great College-street, William Underwood Whitney, M.R.C.S.E., aged 82.

WRIGHT.—On Sept. 4th, at Shipston-on-Stour, William Wright, M.D. Edin., eldest son of the late Edward Welchman Wright, M.D., of Shipston-on-Stour, aged 72.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 12th, 1895.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Maximum Temp. Shade	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Sept. 6	30·09	S.	67	64	102	75	62	...	Hazy
" 7	29·96	S.W.	64	64	113	80	62	1·53	Raining
" 8	30·24	S.E.	68	61	109	75	60	...	Fine
" 9	30·14	S.E.	63	60	112	81	53	...	Foggy
" 10	29·89	S.W.	67	64	110	75	63	0·09	Cloudy
" 11	29·76	S.W.	61	57	106	68	56	...	Fine
" 12	30·03	S.W.	57	54	82	63	52	0·04	Cloudy

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

"THE LANCET" AND ACCIDENT INSURANCE.

A LITHOGRAPHED CIRCULAR LETTER, emanating from an office in the Strand district, is being sent to members of the medical profession, offering to supply them with THE LANCET, in conjunction with an accident insurance policy. The Proprietors of THE LANCET are in no way connected with the scheme (of which they cannot approve), and were not aware of its inception until their attention was called to it by a reader who had received the circular.

PRINCIPALS' CLAIMS TO FEES PAID TO ASSISTANTS.

To the Editors of THE LANCET.

SIRS,—A is an out-door assistant and lives a hundred yards from his principal, B. At 10 P.M., two hours after A has left B's premises and is in retirement and in his dressing-gown, he hears a horse furiously gallop past his door, and knowing it has bolted hurriedly gets up and finds a horse at a standstill a few yards from his door, and a trap smashed all to bits. Learning there have been people thrown out, A hurries on as he is and sends a boy for his cap, thinking the occupants of the trap may be only a few yards from him, but has to go into the country half a mile. There he finds a woman, unknown to him, partly conscious, suffering from injuries to the head, and, receiving the help of another carriage, superintends her removal home and sees her in bed. He asks who is her medical attendant *en route*, and is told that her brother authorises him to call in his principal, B. B has not attended her for some years, but arrives, and B and A minister to her wants A sees her next morning, but B visits her till her death, which takes place twenty-two hours after the accident from concussion. A gives evidence on citation, and receives the usual fee, which B appropriates, at which A feels aggrieved. A holds that as he went out, as any ordinary Christian would, to render assistance, irrespectively of anyone found injured being anyone's patient, he is entitled to the fee. B holds otherwise. Both B and A would be much gratified by having your opinion.

I am, Sirs, yours faithfully,

Sept. 9th, 1895. JUS CIVILE.

*** The case is somewhat exceptional. A acted as "any ordinary Christian" *should*—but not, certainly, as all ordinary Christians *do*—act. And for doing so he has his reward. But that is not exactly in the fees paid by the coroner. These have to be disposed of on professional principles. In so far as he was acting medically he was acting for his principal. The patient's friends wished the principal to be sent for, and doubtless would have sent for him had A not acted with so much prompt humanity as he showed. The case is somewhat out of the ordinary run of cases and one of those in which the fees should be shared equally between the principal and the assistant.—ED. L.

A. and X.—Judging from the statement before us—of course only a one-sided statement—we should say that X has much reason to complain of A's conduct. Let us dismiss one or two questions. The fact that A has only one qualification does not in any way affect X's duty or rights. Again, the question of "covering" does not arise. That offence exists only when an unregistered person is protected by one on the Register. What redress, then, has X? His legal claim to damages is rendered doubtful from the fact that the agreement is only that between an ordinary assistant and his principal, presumably binding him not to practise. But the cards and the plate implying partnership remove the case from an ordinary one of assistant and principal, and give strong colour to X's claim to be regarded otherwise. We could not willingly recommend his setting up in opposition to A if the contract forbids such a course; but in the absence of any such stipulation, and supposing the statement before us to be a complete and unbiased version of the facts, and A to refuse all compensation, we should not think it unreasonable for him to threaten A with commencing practice, subject to a lawyer's approval of the course.

Medicus.—Our correspondent does not give sufficient particulars for us to form an opinion on the *legal* responsibility of the principal. Did the illness arise during the term of service? What were the terms of the engagement between the assistant and the principal? But whatever the legal aspects of the question, no right-minded principal would fail to see that an assistant contracting fever in his service had a great claim on his consideration.

A Poor but Observant Student has not enclosed his name. We do not answer anonymous questions.

Portion of Slate Pencil in the Ear.—Our correspondent is strongly urged to consult a medical man.

PAYMENT OF ASSISTANTS IN ILLNESS.

To the Editors of THE LANCET.

SIRS,—Will you kindly advise me as to what is the proper thing to do in the following case? My assistant takes scarlat fever immediately on returning from his holiday. I will allow he caught it from one of his patients. He has been away for six weeks, and never done a stroke of work during that time. Is he legally entitled to his full salary during this period? He is leaving me, and has written to say he will not return.

I am, Sirs, yours faithfully,

Sept. 7th, 1895. E. SEATON COCKELL.

*** The question proposed seems to be one as to the effect of an agreement, and the answer would largely depend upon its terms. But if, as probably is the case, the agreement provides that the service can only be terminated by notice on either side, and contains no provision as to the suspension of salary in case of incapacity from illness, then it would probably be held that the assistant was entitled to payment of his salary throughout the period of illness; but if he takes advantage of his position to break his agreement by discharging himself without proper notice, he would probably be held to have waived his claim to salary accruing due after the date of his becoming incapacitated.—ED. L.

M.A., M.B.—We cannot give an absolutely definite answer on the information before us. A, we suppose, has a perfect right to seek election, as we take it the post is thrown open by advertisement, and we see nothing in the facts before us to enable us to assume that B, because he has been on the out-patient staff, has any absolute right to be transferred to the in-patient, though as a matter of courtesy he naturally would be. But the contention of A that B cannot hold the post of in-patient *physician* because he has previously been *surgeon*, or rather medical officer to the out-patients, cannot be supported.

Mr. T. C. Maguire.—We never prescribe. The class of people mentioned is to be avoided.

THE PREVENTION OF HYDROPHOBIA.

A CORRESPONDENT sends us the following suggestion:—"That a county where cases of hydrophobia have occurred recently be taken and the dog licence fee be increased to at least two guineas. Such dogs to wear a collar with a special Government registration tally. All other dogs within that county to be done away with, the police to receive remuneration for every dog captured. That all dogs imported into that county shall have a health certificate and undergo a period of quarantine lasting two months (incubation period of rabies being from three to five weeks as a rule). With such measures strictly carried out we should be able to judge in five years or so, and if a very marked diminution in the number of cases of hydrophobia and rabies should occur, then the plan might be adopted over the whole country. In this way all muzzling might be stopped, and there are a great many people who would rather pay their two guineas licence fee than be compelled to put a muzzle on their pet dog each time they take it out."

Forceps.—The claim would not be a strong one; therefore not one to take into court. The patient gave notice beforehand, releasing the practitioner from his engagement. We should not advise any further action.

Mr. J. W. Hill, Snowdrop, Victim, and *M.*—We never prescribe or recommend individual practitioners. Our correspondents should consult their own medical attendants.

Mr. Howard Slater.—The other derivation is usually given as "ad æquales," which certainly seems more plausible than the one our correspondent cites.

Insurance might apply to the Secretary of the Medical Sickness, Annuity, and Life Assurance Society, 33, Chancery-lane, W.C.

A SIMPLE METHOD BY WHICH AN INVALID CAN BE TRANSPORTED BY RAILWAY SO AS TO RECEIVE ABSOLUTELY NO JOLTING.

To the Editors of THE LANCET.

SIRS,—The following details of my method of railway transport for invalids may prove of service to readers of THE LANCET if space for its insertion can be afforded.

If an injury should be of such a nature (spinal, cranial, or other), or if an illness be of such a character (nervous, for example), and in such a situation, as to necessitate removal with absolutely no jolting, a hammock should be procured, having spreaders and stout indiarubber bands between the terminal strings of the netting itself and the particular bands by which the hammock is to be slung. Whether the patient be on the railway line, public road, or in bed, the hammock should be placed under him with as much care as possible. If in bed it can be slipped under the blankets without moving the patient to any extent. Should the place from which the patient is to be removed be some distance from the departure platform, then the patient and hammock under him can be placed on any ambulance conveyance, or on a padded door or shutter, rather than be carried any great distance in the hammock only. Having got the hammock under the patient, and having arrived at the station platform and procured the help of two or three porters, if these should be required, a car of any class is to be reserved. The patient is borne into the car, and the hammock is slung upon the *diagonally opposite* stays of the luggage racks on either side. The rope-ends of the hammock had better be two or three in number at each end than a single one for various reasons, but particularly that one can be hanked on to a neighbouring rack-stay to give a further security, as well as resistance to any lateral swaying there might possibly be. Through the diagonal position of the hammock *in situ* the other diagonal corners of the car are left for attendants or nurses, who can very easily prevent any lateral swaying that might possibly occur *en route* when the train starts or stops, though no one need touch the hammock if extra cords are attached to it, one on each side about its middle, and fastened to an opposite rack-stay.

By the above method a patient can be conveyed from Aberdeen to London with little more shaking than is experienced on a journey from a hospital bed to the operating-room, if it is properly carried out. The apparatus required is so simple and inexpensive that railway companies might have hammocks such as the one described at their principal termini in case of railway accidents, suicides on the line, or for the convenience and advantage of those who for any reason or purpose desire to be removed to their own home or to a hospital when these may be some considerable distance away.

If accident hammocks were provided at the principal railway stations they could be conveyed by return train long distances after being telegraphed for. Surgeons or others would be in a position to direct by telegraph that a car shall be reserved at a particular station, and that an accident hammock shall be provided and porters' help at hand for any train that he might look out in his Bradshaw. Short and simple instructions might be hung up where the hammocks were stored, so that porters should at once know the proper use of them if their assistance were necessary.

I am, Sirs, yours truly,

Sept. 9th, 1895. HAYDN BROWN, L.R.C.P., L.R.C.S. Edin.

COTTAGE HOSPITALS.

To the Editors of THE LANCET.

SIRS,—Can you, or any of your readers, give me an idea as to the probable cost of a cottage hospital, thoroughly equipped, to hold four beds, and also an approximate annual expenditure to keep such a hospital in a state of efficiency?

I am, Sirs, yours faithfully,

Ramsbottom, Sept. 10th, 1895. B. CRAWSHAW.

Justice.—The best course will be to refer the clerk to the Infectious Disease (Notification) Act, 1889, itself. Section 11 is as follows: "A payment made to any medical practitioner in pursuance of this Act shall not disqualify that practitioner for serving as a member of the council of any county or borough, or as member of a sanitary authority, or as guardian of a union, or in any municipal or parochial office."

J. W. S.—A comprehensive list of books to be read and consulted by candidates for the diploma of public health was formerly issued by the University of Cambridge, and a copy of this can probably be obtained on application to Dr. Anningson, Waltham Sal, Cambridge, or from the Cambridge University Press Warehouse, Ave Maria-lane, E.C.

M.D. will be obliged if any of our readers can inform him whether there is an opening for medical or dental practice in or near Johannesburg.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.).

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.).

THURSDAY.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

During the week marked copies of the following newspapers have been received:—*Star (Guernsey), Herts Guardian, Yorkshire Post, Midland Weekly Herald, Mining Journal, Sanitary Record, Australasian Medical Gazette, Guy's Hospital Gazette, North Middlesex Weekly Standard, City Press, Harrogate Advertiser, Surrey Advertiser, Local Government Journal, Brixton Free Press, Bradford Observer, Australian Medical Gazette, Weekly Free Press and Aberdeen Herald, Leeds Mercury, Local Government Chronicle, Liverpool Daily Post, Hertfordshire Mercury, Morning, Bristol Mercury, Crewe Guardian, Western Press, Echo, Birmingham Mail, Nottingham Daily Express, Sheffield Independent, Newcastle Daily Journal, Leicester Post, Daily News, Southampton Times, Blackpool Herald, Wakefield and West Riding Herald, County Council Times, Aberdeen Journal, Batley Reporter, Folkestone Express, Dumfries Standard, Holborn Guardian, Bucks Advertiser, Lincolnshire Echo, Derby Daily Telegraph, Banffshire Advertiser, Clifton Chronicle, Bath Herald, Newcastle Daily Journal, Times of India, Architect, Pioneer Mail, Le Courrier de la Press, Builder, &c., &c.*

Communications, Letters &c. have been received from—

A.—Sir Edwin Arnold, Lond.; Mr. John Ackery, Lond.; *Aberdeen Daily Free Press*, Publishers of; Amos, Lond.

B.—Dr. F. Beach, Lond.; Dr. J. J. Bailey, Lond.; Mr. G. H. Broadbent, Manchester; Mr. Blok, Lond.; Messrs. Blondeau et Cie., Lond.; Birmingham General Hospital, Secretary of; Brading, Lond.; Beta, Lond.; B. M., Lond.

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N.—Northcote Hydro., Woodhall Spa, Manager of.

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Y.—Dr. L. T. Young, City Umbala.

Z.—Z., Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. A. Adams, Reading; Mr. R. Appleton, Stockton on-Tees; Adjuvans, Lond.; Assistant, Lond.; Antares, Lond.; A. H., Lond.; Ægis, Lond.; Assistant, Portsmouth; Alpha, Harrow-road; Argentotype, Lond.; A.B., Lond.; Alpha, Stepney.

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E.—Edinburgen, Lond.; Exploit, Lond.

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